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THE NEW SCHOLASTICISM

A QUARTERLY REVIEW OF PHILOSOPHY

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II. Suarez: *De Anima*.....GEORGE H. MAHOWALD

III. Mathematics and Philosophy.....DANIEL C. O'GRADY

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VI. CURRENT PHILOSOPHICAL REVIEWS AND BOOK NOTES

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EDITED BY

EDWARD A. PACE AND JAMES H. RYAN

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THE STARTING-POINT OF EPISTEMOLOGY

THE word "epistemology" is commonly employed to signify the science of the certitude of human knowledge. "Certitude" is here used to denote the conscious possession of truth, that is, the act or state of mind wherein the mind possesses truth and knows that it possesses it. Among the topics treated in the science are the nature of truth, the sources of human knowledge, the obstacles which impede the pursuit of truth, the means of avoiding error, and the criterion of certitude.

Some of the principal data with which the epistemologist starts his investigation are contained in the following four truths: (1) that we have all made mistakes; (2) that we have corrected many mistakes; (3) that we have accumulated a vast store of truths; (4) that we look upon our mistakes as exceptions to the general course of our lives. It is the first and second of these truths which gave rise to the science of epistemology. Unless men had discovered that they had fallen into error, there would have been no occasion to discriminate between certitude and error or to determine the tests by which we know that we are on the right course. There is in this feature a close parallel between epistemology and logic. It was because experience had brought men in contact with invalid and misleading arguments that they directed their thoughts to the scientific study of argu-

mentation. The logician examines the invalid arguments and compares them with those that are valid, and in this way is led on to establish the canons of argumentation which apply universally and by means of which it is possible to test the validity of the arguments which are set before us. The epistemologist proceeds in a similar manner. He assembles various cases of error and certitude, studies the circumstances in which they have occurred, examines the precautions which men of prudence have adopted for the avoidance of error, and gradually comes to a knowledge of the principal causes of error and to a determination of the criterion which should guide us in our search after truth.

The data which were mentioned above must never be obscured or put out of view. The student must continually recur to them, for they are the chief test of the correctness of any theory or explanation which is advanced in epistemology.

The question has been asked, What is the proper attitude to assume in approaching the study of epistemology, that is, in approaching the investigation of its data? The question is a strange one; at least it would be strange if we were unacquainted with the various experiments which have been made in this field. Why ask this question concerning the epistemologist in preference to any other scientist? The question is just as pertinent in the case of the chemist and the astronomer as it is in that of the epistemologist. If an answer is to be given to the question, it is one that applies to every scientist, and it is this—The proper attitude is, first, a determination to adhere closely to the data and to let them control our speculations; secondly, a willingness to profit by the labors of others, to examine their theories fairly, and to assign our reasons for the judgment we pass upon them.

There is one account of epistemology which has attained a vogue in recent years and which it is the purpose of this paper to examine. It is to this effect—That the main problem which

the epistemologist has to solve is whether the human mind has the power to acquire truth; that he must not commence his investigation by assuming the existence of this power; that at the start he must doubt it in one or other of three or four ways; that at the same time he must not doubt, but affirm, that the mind knows these two truths: (1) every man is conscious of making spontaneous assents, and (2) the mind has the power of analyzing these assents; that the analysis is to be directed toward determining whether the spontaneous assents have put us in possession of truth; that the starting-point of epistemology which is here propounded is proved to be the correct one by the following three facts: (a) that we cannot know that the mind has the *power* to acquire truth till we know that it *has* acquired truth, and this knowledge can come only after an analysis of the spontaneous assents; (b) that the skeptics, as well as we, admit the two truths mentioned above and, therefore, the affirmation of these truths puts us upon common ground with the skeptics; (c) that the procedure recommended in this account is the same as that which is followed by all scientists, namely, to treat every hypothesis or theory as doubtful till it has been proved, and, since the proposition that the mind has the power to acquire truth is an hypothesis, it must be considered doubtful till proof is furnished of its truth; that this procedure, moreover, has the sanction of St. Thomas, whose practice it is to throw the proposition he is defending into the form of a question.

Before proceeding to the discussion of the foregoing account, let us distinguish six attitudes which we may adopt in reference to a proposition: (1) we may reject it; (2) we may doubt it; (3) we may simply accept it; (4) we may accept it and also proceed to prove it to a person who does not accept it (this is sometimes called supposing it doubtful for the sake of argument); (5) we may suppose it doubtful for the sake of the supposition, that is, for the sake of setting forth the consequences of the supposition itself; (6) we may leave it out of

formal consideration. Other attitudes might be indicated, but they have no bearing on the present discussion.

The attitude last mentioned is the one we take up in reference to matters which are irrelevant to the particular point we are investigating. Of course, if an irrelevant question is thrust upon us, we may consent to answer it; but we do so under protest, because the answer is no aid to the investigation, except as getting rid of a perverse and senseless interruption. The fourth attitude was the one adopted by St. Thomas toward the propositions which he defended in his *Summa*. It is exemplified everywhere in the sciences. When I adopt this attitude, I may sometimes throw the proposition into the form of a question. This may happen for two reasons: First, because the proposition comes to me in that form from the person with whom I am dealing; the proposition is a question to *him*, not to me; secondly, because my putting the proposition in that form is a pledge to him that I do not mean to beg the question of its truth. If a proposition is self-evident, so as to be incapable of proof to anyone, it cannot, of course, be doubted, nor can we assume toward it the attitude indicated under number four. In this case we may, if we wish, adopt the fifth attitude. Since the proposition is self-evident, it can be supposed doubtful for only one purpose, *viz.*, to show the consequences which follow from the supposition that it is doubtful. The procedure will take the following shape: "Supposing (or if) proposition A is doubtful, then such and such consequences follow"; for example: "If it is doubtful whether a circle is round, then it is doubtful whether its surface is equal to πr^2."

A remark may be inserted here by way of parenthesis—It is sometimes said that to fasten upon instances of inconsistency in an author's statements is not a refutation of his doctrine. That is true enough when the inconsistencies are incidental and unconnected with his argument. But the exact opposite is the truth when the contradiction resides in the very

heart of his doctrine; and all plausibility in the doctrine vanishes when a contradiction appears in the essential relation of the doctrine to its alleged foundation.

If the investigator in epistemology had set out on his course in a sensible fashion and had been allowed to proceed quietly with his studies, as happens in the case of investigators in other branches of science, he probably never would have heard of the question of the mind's power to acquire truth. Had the question by any chance come under his notice, he would have taken up the attitude which is mentioned under number six; that is, he would have put it aside as not belonging to the matter he was investigating. When, however, the question was forced upon him and he was besieged with a demand for an answer, the proper procedure for him in the circumstances was to adopt the fifth attitude and draw out the implications of the supposition as follows: If it is doubtful whether the mind *can* know any truth, then it is *a fortiori* doubtful whether it *does* know any truth. Hence if you start by supposing it to be doubtful whether the mind can know any truth, you must, as part of your supposition, consider it doubtful whether the mind does know any truth. If you do not suppose it doubtful whether the mind knows any truth, you abandon your supposition. Your supposition disappears the moment you introduce the notion that the mind knows any truth whatever.

Turning now to the account of epistemology which was described above, let us first glance at the position which it proposes as the starting-point of the investigator. Even if we examine this position in itself, apart from the arguments which were employed to recommend it, and apart from its relation to the rest of epistemology, we shall find that it is open to two grave objections: First, it involves a contradiction; secondly, it assumes, under another name, the very point it professes to prove.

First objection—The position is set forth in these two statements: (a) We must doubt (or consider doubtful) that the mind can know any truth whatever; (b) we must not doubt (or consider doubtful)—on the contrary, we must affirm—that the mind knows these two truths: (1) we are conscious of making spontaneous assents, and (2) the mind has the power of analyzing these assents. This representation demands of us the performance of an impossible feat, *viz.*, at one and the same time to regard the same thing as doubtful and also as not doubtful. We cannot in reason approach a man and say to him: "You claim that it is doubtful whether the mind can know any truth. I am willing to adopt that view myself provided that at the same time you agree with me in holding that the mind knows one or two truths; for example, these two—that the mind makes a number of spontaneous assents and that it has the power of analyzing them." We cannot at one and the same time consistently assert that the mind knows two truths and also that it is doubtful whether it can know any truth at all. Moreover, the position implies that the mind knows still another truth, *viz.*, that the supposition is made that the mind's power to know truth is doubtful.

Second objection — The power of analyzing the assents is either a power of arriving at truth or it is not. If it is not, it will be of no avail to employ it in investigating the spontaneous assents; for by its use we shall learn nothing about them. If it is a power of arriving at truth, then you are setting out with the explicit assumption that the mind has the power to acquire truth.

Before we can reasonably accept a theory we must examine the theory in itself; that is, we must determine its obvious implications and the demands it makes of us; next, we must examine the arguments or reasons which are put forward in recommendation of the theory. We must ask whether the necessity of accepting the theory follows from an acceptance of the

arguments. It certainly does not follow if the acceptance of the theory renders impossible the acceptance of the arguments which are used to support it. This is a consideration which tells heavily against the arguments of the skeptics. There is not one of them that possesses the slightest force. The only behavior on the part of the skeptics which has even a semblance of consistency is one of silent wonder.

We are asked to adopt the position under discussion on the following grounds: First, we are only able to know that the mind *can* acquire truth after we know that it *has* acquired truth; secondly, the mind's knowledge of the two truths mentioned above (*viz.*, the occurrence of spontaneous assents and the mind's possession of the power to analyze them) together with the doubtfulness of the mind's power of knowing truth is the very position of the skeptics, and we ought to place ourselves in their position in order to secure a common basis of argument with them; thirdly, the example of scientists in other fields of inquiry teaches us to regard with doubt any theory which has not yet been proved, and at the start of our investigation the existence of the mind's power to acquire truth is a theory, and is, in fact, the chief problem which epistemology has to solve.

The statement which is put forward as the first ground is perfectly true, but nothing to the purpose. We discovered years ago, as little children, that our minds have acquired truth, though we may not have used this mode of expression or even put the matter into words. Ask a little child whether it is true that two plus three is equal to five, and you will receive a prompt answer in the affirmative. Then ask him whether it is possible for us to know something if we do know it, and, if he does not laugh at the simplicity of the question, he will be equally ready with an affirmative answer. The inference from the fact of knowing to the power of knowing is immediate in the sense of self-evident. A man may never have thought of making this inference, but the matter has only to be presented to him to elicit from him an instantaneous assent. Will it be said that

he doubted his possession of the power to know truth down to the time that you asked him the question? By no means. A man does not doubt something which he has never even heard or thought about. It is impossible for the mind to assume any attitude whatever toward a proposition or question which has never been brought before it. It may be objected that the skeptic does not admit that the mind has acquired any truth. A word shall be said on this point in the following paragraphs.

As to the second ground, its weakness may be seen from the following considerations: First, it assumes that our chief concern is to hold an argument with the skeptics, whereas such a proceeding need not form any part of our purpose. Our purpose may be simply to go on with a study of the data of epistemology and to throw our findings into the shape of a science, or it may be to put our hearers in possession of a system which shall render them immune to the sophistry of the skeptics. Secondly, there may be those among the skeptics who will refuse to take up the position for which you are contending and who will defend their refusal by saying: "You are going to analyze your spontaneous assents because a number of them have been erroneous; but have there been no instances of error in analysis?" Thus, you are thrown back upon an analysis of the mind's power of analysis as a preliminary to its employment upon the spontaneous assents, and this drives you into a *processus in infinitum*. Thirdly, the contention requires us to adopt the skeptic's position without examining it or scrutinizing the arguments which he uses to support it. The doubtfulness of the mind's power to acquire truth is not the starting-point of the skeptic's argument; it is the *conclusion* of his argument; and yet we are asked to *start* our argument against him by adopting his conclusion! I refuse to grant, even for the sake of argument, what it is the business of the skeptic to prove. I refuse to *start* my argument at the point where the skeptic's argument *ends*. The so-called common ground is the prison-

house of the skeptic and to enter it is to become his captive. Surely a common ground is one where the combatants are on an equal footing, where each of them has a fair chance to fight; it is not a place where one of them is caught in a trap which was set by his antagonist. Let us look at the *arguments* of the skeptic and judge from them the reasonableness of the position which he would have us adopt. We shall find that his arguments destroy themselves. There is not one of them that does not start with a demand that we accept some truth or something we are expected to look upon as a truth. There is no other possible way of getting an argument in motion. You cannot build an argument out of a bundle of questions. You cannot argue by proceeding in this fashion: "Is every man mortal? Is every king a man? Therefore is every king mortal?" (Of course, the situation is altered if the questions are rhetorical; that is, if they are in reality assertions in the form of questions). The conclusion of an argument cannot be that argument is impossible; nor can the conclusion from our knowledge of certain truths be that it is doubtful whether we can know any truth. Even if a man begins his argument with a "perhaps" or a "maybe", he is asking us to accept the truth that what he proposes is conceivable. It is astounding to what lengths the skeptic will go in his effort to give an air of plausibility to his arguments. He actually appeals to our knowledge of certain facts in order to prove that we do not know those facts! Take an instance from Kant. When he is not simply asserting that we cannot know the things-in-themselves, he attempts to construct an argument which is practically equivalent to this: "Our knowledge of the things-in-themselves shows us that they can not be accommodated to our minds; and, since our knowledge of the things-in-themselves shows us this, it is evident that we can not know them. Therefore, our knowledge of the things-in-themselves teaches us that we have no knowledge of the things-in-themselves."

And now as to the third ground. In the first place, the scientist does not wait for a proof of everything; else he would have no data to work upon. Nor does he wait for a proof of every theory: many of them he rejects without a second thought; and rightly so, for their absurdity or falsity is evident at a glance. What would a scientist think of a theory which required him to question the existence of his data? Would he entertain a theory which obliterates the data that are supposed to have suggested the theory? What should we think of the chemist who consented to pay serious attention to a theory which raised a doubt as to whether there are any chemical reactions? Doubt as to the occurrence of chemical reactions destroys the possibility of a science of chemistry. In the same way doubt as to the data concerning knowledge or doubt as to the power or fact of knowing makes impossible the creation of a science of epistemology. The strange performances of the skeptics would suggest the thought that, instead of dealing with the science of knowledge, they were intent upon constructing a science of the non-existence of knowledge or a science of universal ignorance.

In the second place, the existence of the mind's power to acquire truth is not a theory or a proposition which we take upon ourselves to prove; it is a self-evident fact. To doubt it is to stifle thought at its birth. There may be speculation on the manner of knowing, but not on the fact or power of knowing. Speculations on the manner of knowing presuppose the fact of knowing, and their validity is tested by that fact. It is the *doubtfulness* of the mind's power to acquire truth that is a theory—a theory for which the skeptics have never been able to produce a particle of proof. The skeptics did not derive their theory of the doubtfulness of the power of knowing from an inspection of the data of epistemology. They took a cursory glance at only one section of the data and then turned their eyes away from the data altogether and perplexed and confused

their minds with sophisms; and ever since, their strategy has been to inveigle us into imitating their folly, that is, to concentrate our attention upon the sophisms and to leave the data of epistemology out of view. The consequence is that the career of epistemology in the hands of the skeptics has not been one of serious investigation, but of collision and conflict, a battle in which everyone is fighting everyone else. A stranger, watching the antics of the skeptics, would imagine that he had wandered into a madhouse or a place where men were on a holiday, amusing themselves with puzzles and each one striving to outdo the others in the extravagance of his sophisms. The skeptic, instead of confining himself to the field of science, has plunged headlong into topsyturvydom and brought discredit upon the science of epistemology. And what increases the discredit which invests the science is that many writers on the subject disdain to use a language which the average educated man can understand. Whatever they have to say is enveloped in cloud and mystery. They vie with each other in the fabrication of dark sayings till they have reached the last depths of the unintelligible.

The second paragraph of this paper mentioned four heads of data which belong to the subject-matter of epistemology. There is not one of them which a man who was seriously entering upon a study of human knowledge would call in question for an instant. All four are perfectly patent to a man till he deliberately closes his eyes to them and works himself into a state of doubt. But what has the skeptic done? He has taken a hurried look at the first head of data, *viz.*, the fact that men have made mistakes, and banished all other data into oblivion. But if he had paused a moment to reflect even upon the occurrence of mistakes, he would have noticed that every time he finds himself in a mistake he discovers at least two truths, namely, (1) the truth that he had made a mistake, and (2) the truth which revealed to him that he had made a mistake.

In the account of epistemology which we have been discussing it is set down that the existence of the mind's power to acquire truth is the chief problem of epistemology. Surely this is a grave misconception of the object of epistemology. The existence of the mind's power to acquire truth is not a problem at all, any more than the Law of Contradiction. The aim of the student of logic is not to find out whether the mind can reason correctly or whether there are any valid arguments, but to determine what constitutes a valid argument and what are the means of securing its validity. In like manner the aim of the epistemologist is to investigate what constitutes certain knowledge and what are the means of guaranteeing its certitude. It was the skeptic who raised the question of the mind's power to acquire truth, not the man who kept his attention fixed upon the data of epistemology. If the sincere and earnest student is left undisturbed to pursue his investigation of the data, the question of the mind's power to acquire truth will never enter his head. By right the question should be omitted altogether from the formal consideration of the epistemologist. But it is difficult to see how such a natural course is possible at the present day. Encompassed as he is by the incessant wranglings of the various schools, and feeling his responsibility for those whom he has to instruct, he is obliged to take up and answer the sophisms of the skeptics. But it is an unfortunate and burdensome necessity.

In conclusion there is one remark to be made upon a point which is closely connected with the subject of this paper. The claim has been made that we are unable to do justice to an opponent's argument unless we entertain a doubt of our own position. The claim cannot be sustained, and no one ever dreams of acting upon it in his own case. If a man doubts his own position, he ceases to hold it; that is, it ceases to be his position. And if a man gives up his position, why should he defend it? Is all argument a game having no more significance

than a battle of wits? And how many times is a man to abandon his position? If the contention in question were well-grounded, then no matter how often a man had proved a proposition to his own satisfaction and that of those who opposed him, he would have to doubt it all over again with every fresh dispute. Supposing someone challenged the truth of the Law of Contradiction, I should be obliged, according to this contention, to doubt that Law myself in order to show that the man was making a fool of himself. The contention is logically bound up with universal skepticism. Besides, what possible effect can my state of mind have upon the *objective worth* of my argument? Surely controversies are to be settled by the objective worth of the arguments presented, not by the state of mind of the disputants. It is the business of my opponent to find fault with my *argument*, not with my state of mind. My argument is before him in black and white, and even though I changed my state of mind every minute, the force of the argument would not change; it would remain what it was when I wrote it down. All that my opponent can reasonably demand of me is that I deal fairly with his arguments; and the question whether or not I deal fairly with them cannot be judged by the position of my mind, but by what I say in answer to them. My statements in reply to him are there on paper to be judged by him and by all who take an interest in the matter. If there is any unfairness on my side of the discussion, let it be pointed out where it can be observed by all, *viz.*, in the statements which constitute my part of the discussion. To make the position of my mind the capital point to be insisted upon and, on this account, to refuse to weigh the force of my argument is to act an irrational part and to place one's self outside the arena of serious debate. My opponent has just one thing to do if he is to meet me squarely, and that is to indicate any unfairness in my method of handling his argument or to point out a flaw in my own.

Georgetown University. JOHN J. TOOHEY.

SUAREZ: *DE ANIMA*

IN this paper, I shall examine the following points in order: (I) the contents of Suarez' treatise *De Anima* and its relation to his other works; (II) the differences of opinion in Suarez and St. Thomas; (III) Suarez' style and method.

I

The Contents of Suarez' Treatise *De Anima* and Its Relation to His Other Works

The edition of Suarez' works, *Opera Omnia*, used in the preparation of this paper, is the one published at Paris, "Apud Ludovicum Vivès, Bibliopolam Editorem", 1856-1861.[1] The third volume in this edition contains two of the three treatises of the *Tomus Tertius* (In Primam Partem D. Thomae) of Suarez: the first is *De Opere Sex Dierum*, the second is the one with which we are concerned here and bears the title *De Anima*. This latter corresponds, in general, to the matter of Questions 75-89 of the First Part of the *Summa Theologica* of St. Thomas.

De Anima is divided into six books. The headings of these books indicate that *De Anima* was intended to be a complete treatise on vegetative, sentient, and rational life. Book one is entitled "About the Substance, the Essence, and the Determining Nature ('Informatione') of the Rational Soul"; book two, "About the Powers of the Soul in General, in Particular of the Vegetative Soul"; book three, "About the Cognitive Powers in General, in Particular about the Sense Powers"; book four, "About the Intellective Power"; book five, "About the Power of Appetency in General as well as in Particular, and of Locomotion"; book six, "About the Condition of the

[1] There are 26 volumes in this edition: 22 *Commentaria ac Disputationes* on the *Summa Theologica* of St. Thomas; 1 *De Censuris*; 1 *Defensio Fidei*; 2 *Disputationes Metaphysicae*.

Separated Soul." From this enumeration, it may be seen that, in a general way, book one contains what we call rational psychology or the philosophy of the soul,[2] while the remaining books comprise phenomenal or empirical psychology, though, of course, plenty of philosophy pervades them.

It should be noted here that, while we are professedly discussing *De Anima* proper, we must not overlook the fact that the same material, in comparatively condensed and scattered form, scattered according to metaphysical subjects under discussion, can be found in Suarez' two volumes *Disputationes Metaphysicae*. The "Index Philosophicus" at the end of the second volume, under the subtitle "Ad Libros de Anima", gives ready access to the psychology contained in them. These should be consulted in order to check up on a possible, though rare, change of opinion. For *Disputationes Metaphysicae* were revised for publication after the composition of *De Anima*, with the exception of the first twelve chapters of Book I.

Unfortunately, Suarez died after revising the first twelve chapters of Book I of *De Anima*, so that the remainder of this important treatise consists of the commentaries and disputations delivered many years before by Suarez, when a young professor, and deemed worthy by Balthasar Alvarez to be published without revision by the elder Suarez.[3]

[2] Owing to the death of Suarez, some points of rational psychology, e. g. the origin of the soul, are not treated in *De Anima*.

[3] *Commentaria ac Disputationes in Primam Partem D. Thomae, Tomus Tertius:* cf. preface of Balthasar Alvarez to *Tractatus Secundus*; also, notes before and after Chapter XIII, Book I, *De Anima*. These passages together with Suarez' own preface to *Disputationes Metaphysicae* inform us that a portion of his commentaries on the Third Part of the *Summa Theologica* were published first; next, *Disputationes Metaphysicae*; then followed the remaining commentaries, including the first twelve chapters of Book I, *De Anima*. Coleridge, *The Month* (1865), p. 175, says: "He (Suarez) published his first volume on the Third Part of the *Summa* at Alcalá; a second volume on the same part of St. Thomas while still at Alcalá; the third did not appear till he was teaching at Salamanca, along with two volumes on metaphysics, which he had written many years before. The rest of his works appeared at various intervals while he was professor

Practically, the only difference in the treatment of the soul in *De Anima* and in *Disputationes Metaphysicae* is this: in the former, the soul is professedly the subject of discussion and is exhaustively treated as a distinct unit, while in the latter, aspects of the soul are considered as subordinate topics to larger questions of metaphysics and, therefore, less in detail and just as occasion demands such consideration.

It is true, that Suarez' preface to *De Anima* would lead one to expect a considerable difference in method of treatment. For, there he justifies the insertion of this philosophical treatise in his theology, i. e., in his commentaries on the *Summa Theologica* of St. Thomas on the ground that sacred theology must not merely take over from another source the natural knowledge of the soul, but must itself, "by divine illumination and revealed principles, seek and deliver a more excellent and complete knowledge of the soul."

Any difference, however, that one might expect as a result of this, is negligible: *De Anima* is preponderantly philosophical; on the other hand, Suarez in his *Metaphysics*, dilating and commenting on Aristotle, was, surely, no less guided by "revealed principles" even if less frequently expressed.

II

Differences of Opinion in Suarez and St. Thomas

In the matter of psychology, Suarez differs with St. Thomas, principally in these points: Suarez holds (1) that the souls of all animals, perfect as well as imperfect, are extended; (2) that the phantasm is a quasi-material or quasi-exemplary, and not an instrumental, cause of the intellectual "species impressa"; (3) that the (every) "species impressa" is a virtual, and not a formal, image of the object; (4) that the intellect has direct cognition of individual material objects.

at Coimbra, and after he had retired from teaching and was devoted altogether to authorship, in the last stage of his long and laborious life".

1) Regarding the extension and divisibility of animal souls, Suarez' position, apparently, underwent a change. In his younger days, writing in Chapter XIII, Book I, *De Anima*, about St. Thomas' reasons for maintaining the simplicity of the souls of perfect animals (St. Thomas' main reason, according to Suarez, being that, when a part is cut off, these animals or parts die immediately), he says: "Now as this position of St. Thomas is difficult to understand, and the foundations of it are easily broken down, many even of his disciples have parted company with him in this matter." [4]

That Suarez leans in the direction opposite to St. Thomas seems to be evident from this passage and the entire discussion. But in deference to the Angelic Doctor, he adds the modest statement: "However, we need not relinquish St. Thomas in this question, although the other side can be defended with sufficient probability." [4] "Let this, then," he continues, "be the fourth conclusion. The sensuous souls of perfect animals are indivisible and unextended." [5] Then he proceeds for the rest of the chapter to show that the difficulties in St. Thomas' opinion are not insurmountable, and to add a positive argument from the unity of consciousness and operation (a really good argument which, as far as I know, he never refutes).

If this was not a restriction of his true opinion, he certainly changed. Later, in his *Metaphysics*, he writes: "Although there is some dispute regarding the souls of perfect animals, I take it to be more probable that no material form is truly and properly indivisible." [6] His line of argument seems to be:

[4] *De Anima*, Lib. I, c. XIII, 8: "Ac quia haec D. Thomae positio difficile intelligitur, fundamentaque facile solvuntur, multi etiam illius discipuli in hac parte ab ipso defecerunt. . . . Neque tamen est, cur in hac parte D. Thomam deseramus, etsi pars altera satis probabiliter defendi valeat."

[5] *Ibid.*, Lib. I, c. XIII, 9: "Unde sit quarta conclusio. Animae sensitivae animalium perfectorum indivisibiles sunt, et inextensae."

[6] *Disp. Metaphys.*, Disp. XV, sect. X, 31: "quamvis enim de animabus perfectorum animalium sit nonnulla controversia, suppono tamen esse probabilius, nullam formam materialem esse vere ac proprie indivisibilem."

if these souls (or forms) were simple, they could not, apparently, be educed from matter; they would have to be created; they would be independent of matter; therefore immortal etc., all of which is most absurd.[7] An even more emphatic statement occurs in the portion of *De Anima* which he revised shortly before his death. There he states that he considers it "most probable" that all souls, except man's, are divisible.[8]

2) As to the concurrence of the phantasm in the production of the "species intelligibilis", St. Thomas calls the phantasm the secondary instrumental agent, and the active intellect the principal and primary agent.[9] Referring to St. Thomas' explanation in this regard, Suarez says: "St. Thomas indicates this mode of escape" (the claim that the active intellect produces the spiritual entity of the species, and the phantasm the representative quality) "in *de Veritate* q. 10, art. 6, ad 7mum, where he states that the effect, namely the 'species intelligibilis' is left in the passive intellect according to the nature of each, that is, of the active intellect and of the phantasm; for the phantasm, he says, causes (efficit) the species to be of a determinate object."[10]

This Suarez immediately rejects: "But not even this way of speaking is satisfactory." And, on the contention that everything in the intelligible species is spiritual, he claims that the material phantasm cannot by any proper action, even instru-

[7] *De Anima*, Lib. I, XIII, 6; *Disp. Metaphys.*, Disp. XV, II, 9. However, for a mitigation of one or the other of these views, cf. *De Anima*, Lib. I, XIII, 13.

[8] *De Anima*, Lib. I, II, 19.

[9] *De Ver.*, q. 10, art. 6, ad 7mum. "Se habent phantasmata ut agens instrumentale, et secundarium; intellectus vero agens ut agens principale et primum."

[10] *De Anima*, Lib. IV, II, 8: "Quam evasionem indicat S. Thomas, *de Veritate*, q. 10, art. 6, ad 7mum, ubi ait effectum, speciem scilicet intelligibilem, relinqui in intellectu possibili secundum conditiones utriusque, id est, intellectus agentis ac phantasmatis, nam phantasma (inquit) efficit, ut species sit rei determinatae."

mental, *effect* anything in it: "It is impossible, therefore," he says, "for the phantasm to effect anything in the species, either partially or totally. . . . Not even as an instrument can it be elevated to such action." [11] A little farther on, Suarez attempts to reconcile St. Thomas' stand with his own, in these words: "St. Thomas uses instrument in a broad sense; for the phantasm indeed, in some way, concurs and determines the active intellect, and, therefore, it is said to move to, or to be an instrument in, that action: remotely, however, and not very properly." [12]

Suarez' own opinion is expressed in these words: "My opinion is: the rational soul has the spiritual power" (active intellect) "to effect in the passive intellect the species of those objects which it perceives by sense; the sense cognition, however, does not at all concur efficiently in that action, but it offers, as it were, the material, which either rouses the soul, or rather serves, so to speak, as a model" [13] (for the depicting action of the active intellect). This opinion he considers "more probable." [14]

3) According to Suarez the "species impressa" is a virtual image ("veluti objecti semen") of the object, while according to St. Thomas it is a formal image (as a statue is, of a man).

[11] *Ibid.*, Lib. IV, II, 9: "Verum nec modus hic dicendi satisfacit. . . . impossibile est ergo ipsum (phantasma) efficere quidquam in specie, sive partialiter, sive totaliter. . . . neque ut instrumentum valet ad illam actionem elevari."

[12] *Ibid.*, Lib. IV, II, 13: "Ad D. Thomam respondetur ipsum loqui late de ratione instrumenti, quia enim phantasma aliquo modo concurrit, et determinat intellectum agentem, ideo dicitur movere, vel instrumentum esse in eo opere: remote tamen, nec admodum proprie."

[13] *Ibid.*, Lib. IV, II, 12: ". . . arbitror inesse tamen animae rationali vim spiritualem ad efficiendas in intellectu possibili species earum rerum, quas per sensum cognoscit, ipsa sensibili cognitione minime concurrente efficienter ad eam actinem, sed habente se instar materiae, aut excitantis animam, aut vero ad instar exemplaris."

[14] *Ibid.*, Lib. IV, II, 10.

"The" impressed[15] "mental images", Suarez says, "do not represent their objects formally but only causally. Many do not approve this conclusion since St. Thomas, neither do we deny all probability to their opinion. Still the conclusion stated seems more probable".[16] His main argument is that, if the "species impressa" were a formal image of the object, it would be actual cognition ("species expressa"), "since cognition is nothing else but the formal mental agreement between faculty and object."[17] Palmieri[18] agrees with this reasoning, though it is unconvincing.

Suarez maintains the same position in *Disputationes Metaphysicae*, only more emphatically. Thus: "According to the true opinion, the 'species impressa" is neither a formal image nor is it in any way a formal representation, but a causal one, in as much as it is, so to speak, a seed or instrument of the object for the production of the formal mental representation, which is brought about by the mind's concept",[19] that is by the "species expressa". Here indeed, Suarez, engaged, as he is, in the discussion of universals, is speaking of intellectual species, but the passage expresses his mind regarding all impressed images.

Father Joseph Froebes gives a sort of truncated palm of victory in this discussion to St. Thomas, when he says:

[15] That Suarez is speaking of impressed images is plain from the context. Cf. also, *ibid.*, Lib. III, II, 22.

[16] *Ibid.*, Lib. III, II, 20: "Quarta conclusio. Species intentionales non repraesentant formaliter objecta, sed effective tantum. Hanc multi non approbant post divum Thomam, neque illos omnino improbabiliter sentire iudicamus. Verumtamen posita conclusio probabilior apparet."

[17] *Ibid.*, Lib. III, II, 20: "cum cognitio nihil sit aliud quam formalis conformitas inter potentiam et objectum."

[18] Palmieri, *Inst. Phil.*, Anthropologia, Th. XXV, III, 2.

[19] *Disp. Meta.*, Disp. VI, VI, 7: "Juxta veram sententiam, species impressa neque est formalis imago, neque ullo modo formaliter repraesentat, sed effective, quatenus est veluti semen seu instrumentum objecti, ad efficiendam formalem repraesentationem, quae fit per conceptum mentis." Cf. also, *ibid.*, Disp. XXX, XI, 32 and 33.

"According to our present knowledge, it is rather the formal image that seems to obtain in the case of extended properties of a body, which alone appear similar in perception." [20] Perhaps, Father Froebes has not exactly hit the point.

4) Suarez correctly states, that "St. Thomas holds individual objects are not known directly" by the intellect, "but by reflection only; that is, they are known not by proper species but by the species of the universal, by some kind of conversion" (reflection) "to the phantasm." [21] Suarez' own position is: "Our intellects know the individual material object by a proper species of it" and "our intellects know individual material objects directly without reflection." [22]

Of all the differences enumerated between Suarez and St. Thomas, this, I think, is the most significant. All Scholastics [23] admit that it is proper to the intellect to know universals. All admit that, somehow or other, the intellect truly cognizes singular immaterial objects, like God; practically all admit that we do have distinct and clear concepts of the singular material object (Cajetan, apparently, denies this, claiming that we know only universals distinctly, and in an abstract manner conclude that there must be singular objects, since universals cannot exist).

The controversy here is: are individual material objects known directly, that is, are there proper "species impressae" of these imprinted on the passive intellect? With St. Thomas,

[20] *Psychol. Speculativa*, Tomus I, p. 117 (1927): "Secundum hodie nota pro proprietatibus extensivis corporis, quae solae similes in sensatione exhibentur, potius imago formalis valere videtur."

[21] *De Anima*, Lib. IV, III, 2: "S. Thomas . . . opinatur, singularia non cognosci directe, sed reflexe tantum, id est, non cognosci per propriam speciem, sed per speciem rei universalis, facta quadam conversione ad phantasmata." Cf. St. Thomas, *De Ver.* q. 2, art. 6.

[22] *De Anima*, Lib. IV, III, 5, 7: "Intellectus noster cognoscit singulare materiale per propriam ipsius speciem". — "Intellectus noster cognoscit directe singularia materialia absque reflexione."

[23] For these statements, cf. *ibid.*, Lib. IV, III; also, Froebes, *op. cit.*, Tom. II, pp. 31 et seq.

Thomists in general, and many moderns, such as Palmieri, Mercier, Maher, stand for indirect cognition; Father Froebes, Scotists, and many others, are found with Suarez contending for direct cognition. Tongiorgi [24] suggests a middle course.

To explain Suarez' position as briefly as possible, I shall quote from *Disputationes Metaphysicae* which is in perfect accord in this matter with *De Anima*: "It is positively nearer the truth to say that the species, impressed by the active intellect, does not abstract from the representation of the individual object in the phantasm, but only from the real and entitative materiality of the phantasm itself; without this" (real and entitative materiality) "it can be a representation of the same individual object no matter how material; for to be or to become such by a spiritual form or quality or entity is not an impossibility, as is evident in the case of the angels and God Himself." [25]

He then proceeds to summarize his arguments for holding this position of direct cognition of the individual, or of the production by the active intellect of a proper species of the individual object: (a) there is no contradiction in this; (b) no physical reason can be assigned to show that this cannot be done by the active intellect; (c) without reason it must not be denied; (d) it is more in accord with experience, with the natural order of cognition, and with the purpose and natural activity of the active intellect whose function it is, by means of spiritual action, to render the passive intellect as similar as possible to the representation of the phantasm. And, therefore, the active intellect does not of necessity abstract the universal (as St. Thomas

[24] *Inst. Phil.*, Psychol., Lib. III, cap. VI, art. IV.

[25] *Disp. Meta.*, Disp. VI, VI, 7: "Simpliciter verius est, speciem impressam ab intellectu agente non abstrahere a repraesentatione individui repraesentati in phantasmate, sed solum a materialitate reali et entitativa ipsius phantasmatis, sine qua esse potest repraesentatio ejusdem individui quantumvis materialis; hanc enim non repugnat esse aut fieri per formam seu qualitatem aut entitatem spiritualem, ut in Angelis et in Deo ipso patet."

holds), in fact, perhaps it cannot do so (this according to Suarez being the function of the passive intellect).[26]

In an earlier paragraph, claiming, likewise, that the active intellect does not abstract the universal but merely prescinds from the material condition of the individual representation in the phantasm, he argues, somewhat as follows, against those who hold that the active intellect abstracts the SPECIFIC universal. In this case the active intellect would always have to abstract the specific nature, its action being necessary, and could never abstract the generic. But as we do have generic universals, they must be abstracted by the passive intellect. The insinuation seems to be: Why not assign all the universal-abstracting function to the passive intellect?[27]

At this point, Suarez mitigates the opposition of St. Thomas by saying that the Angelic Doctor at times speaks simply of the abstracting power of the intellect, making no distinction between the active and passive.[28]

III

SUAREZ' STYLE AND METHOD

Regarding the style and method of *De Anima*, and the same holds in general for his other works, we can say: the arrangement is very orderly, the language always clear; the treatment of subjects is copious, much more so than that of St. Thomas, but not verbose; the author's acquaintance with contemporary and earlier writers is astounding; his critical and independent attitude is manifest on every page, combined with a deep reverence for St. Thomas that no one can miss.

De Anima is divided into books and chapters. The subject of each chapter is usually indicated in the form of a question; then follow: Postulates or Suppositions, if necessary, Asser-

[26] *Ibid.*, loco cit.
[27] *Ibid.*, Disp. VI, VI, 3.
[28] *Ibid.*, Disp. VI, VI, 4.

tions or Conclusions, Objections to each, Solutions or Responses, the author's own and those of other writers. Suarez' position, in all discussions, is usually clear, but to be sure of discovering it may necessitate reading the entire chapter. In this regard, St. Thomas' Questions in the *Summa Theologica*, with their unvarying "Videtur quod non", "Sed contra", and "Respondeo" offer a distinct relief.

As the theological works of Suarez, among which is *De Anima*, are inscribed *Commentaria ac Disputationes in . . . Partem D. Thomae*, we may ask: Is he a "faithful commentator"? If Maurice de Wulf [29] in denying this title to Suarez, means that he does not limit himself to quotations from St. Thomas and to the mere expansion of their meaning, that on the contrary he devotes very much space to others, sifts the arguments of all even of St. Thomas himself and sometimes, though rarely, disagrees with him, that he always expresses his own mind—why, then Maurice de Wulf is right.

Suarez' works are not, by any means, a mere commentary on St. Thomas, but they are disputations on the material of the *Summa* and, in outline, follow the order of the *Summa*. This paper, I trust, has made it clear that Suarez was faithful in his citations and loyal in his attempts at interpretation of St. Thomas, and that his works breathe a feeling of love and reverence for him.

In an interesting article on Francis Suarez in the *Month* for 1865, Henry James Coleridge makes a statement which we may readily approve: "If ever it could be said that great fecundity did not beget mediocrity, it is true of Suarez; and although he treats many questions very copiously, few will find him prolix. He is clear as well as profound, and in all the exuberance of his variety he is consistent with himself." [30]

[29] *History of Mediaeval Philosophy*, Third Edition. Translated by P. Coffey (1909), p. 494.

[30] *The Month* (1865), p. 185.

In conclusion, may we add these words of Coleridge? "A few among the great galaxy of theological authors of his time may here and there rival or even surpass him in brilliancy or ingenuity; but he has, perhaps, no peer in sagacity, freedom from exaggeration, and a certain delicacy and faithfulness of instinct which belongs to the consummate theologian." [31] Suarez "became the Doctor Eximius, a theologian surpassed by no one since the days of St. Thomas Aquinas." [32]

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[31] *Ibid.*, p. 63.

[32] *Ibid.*, p. 67.

MATHEMATICS AND PHILOSOPHY

IT is indeed a matter of significance to the metaphysician and to the layman of today that our most prominent philosophers should be mathematicians. What names are more celebrated in the contemporary philosophic sphere than those of Whitehead, Russell, Eddington, and Jeans? It would almost seem as though Pythagoras, to whom number was the essence of things, had endured reincarnation. Surely Descartes, Leibnitz, Spinoza and Gassendi are rejoicing in their heaven and perhaps giving vent to peals of Olympian laughter, for they too gained immortality in both capacities.

It is by no means the purpose of the present paper to disparage the achievements of pure or applied mathematics. Far be it from the philosopher worthy of the name to withhold his admiration for a Zeno, a Euclid or an Archimedes, for a Gauss or a Cantor, for a Kepler, a Copernicus, a Galileo, a Pascal, a Newton, a Napier, a Laplace, a Fournier, a Bolyai, a Sylvester, an Euler, a Minkowski, a Riemann, a Lobachevski or an Einstein. It would seem both discreet and valorous, however, to examine the status of the mathematician with a view to determining his legitimate function and to reducing the extravagance of the claims in his behalf as an oracle of truth.

The abstract, formal, a priori and deductive character of mathematics is sufficient to establish its affinity with metaphysics and thereby win our sympathy. Moreover, its services to physical science and, therefore, indirectly to our practical life and to modern Western civilization in general, preclude the possibility of our slighting it. Physics, says Eddington, is concerned with the "metrical aspects of things and only with those things which have such aspects", but measurement is a mathematical process. Number, say Dantzig and Lewis, is the language of science. Similarly Henri Poincaré,[1] than whom

[1] *The Foundations of Science.*

nobody is better qualified to speak, points out that just as a house includes over and above its stone the all-important factor of organization, so does science involve besides the elements of observation, of the discovery of fact and the test, confirmation or verification by experiment, a third ingredient which may be called hypothesis, generalization, theory, deduction, inference, classification or utilization upon which prediction is based, and which is one of the rôles of mathematics. Besides investigation, science embraces speculation and its brilliant predictions depend upon the latter phase. Among these predictions, these a priori calculations on paper, antecedent to experience, perhaps none stand out with greater brilliance than Leverrier's calculation of Neptune's position, Mendeléeff's computation of the Periodic Table of the Elements and Einstein's divining the bending of light-rays in a gravitational field.

Despite one's appreciation of the importance of this science and one's sincere intention to escape underestimation, it is difficult to avoid chagrin at the exaggerated eulogies and the more than generous appraisals of some writers. Novalis for example says: "Mathematics is the life supreme. The life of the gods is mathematics. Pure mathematics is religion." According to Plutarch, Plato himself declared that "God geometrizes." Finally Jeans[2] assures us that the "universe appears to have been designed by a pure mathematician." Now, of course, as devout tributes to Deity such encomiums are compliments of the boomerang type. They remind one of musicians and their admirers. To say with Carlyle that "all deep thought is music", or with Luther that "music is next to theology", or with Bach that it is "the highest of all sciences" is surely going too far. How different in tone and implication are the Biblical utterances: "Thou hast ordered all things in number and measure and weight" . . . "Who hath measured the waters in the hollow of his hand, and weighed the heavens with

[2] *The Mysterious Universe.*

his palm? who hath poised with three fingers the bulk of the earth, and weighed the mountains in scales, and the hills in a balance?" [3]

Other laudatory comment might be cited from Kant, Comte, Herbart and Reid, but what we have quoted will suffice to indicate the exuberant enthusiasm, I almost said, the fanaticism, of the philomath. Is this one of the seven devils of science? Another idol? Surely a superstition?

One need not go to primitive times or places to find superstition regarding number in folklore. Even today so many people look askance at the number thirteen that recently a transatlantic liner delayed its departure from New York for one day rather than sail on Friday, the thirteenth. It is also well known that in many American office and apartment buildings there is no thirteenth floor and rooms and suites are never numbered thirteen lest the superstitious sensibilities of patrons be offended. We also hear of golden, magic, unlucky and mystical numbers. Three, four and seven are supposed to have occult properties. In St. Augustine [4] mystical properties are ascribed to the number seventy-seven. Again the seventh son of a seventh son is popularly regarded as having prophetic powers. Of course the Blessed Trinity provides a basis for all sorts of illegitimate inferences regarding the figure three. Furthermore there is nothing wrong about employing numbers as symbols as Dante does in his classic epic. Nor is there any difficulty about the significance to be attached to the triple pronunciation by the priest in the Mass of the sacred formulas *Sanctus, Agnus Dei,* and *Domine, non sum dignus.* However, one suspects the triads of Hegel and the "they say there is divinity in odd numbers" of Shakespeare [5] and Virgil.

It is easy enough to understand why such a leader in pure

[3] Isaias, 40: 12.

[4] Moritz, *Mathematica Memorabilia,* 2149, 2145.

[5] *Merry Wives of Windsor.*

science as Einstein should be regarded as intellectually superior to a practical inventor like Edison, but the philosopher is rather surprised that there is a veritable hierarchy or rather a caste system with its accompanying snobbery in the world of science. Thus the mathematician, the physicist, the chemist, the biologist, and the field naturalists may be compared to the general, the colonel, the major, the captain, and lieutenant in military circles. As in all such human systems, revolt occasionally asserts itself, so that one could scarcely help enjoying the recent critique by the physiologist, J. S. Haldane,[6] of Bertrand Russell's *The Scientific Outlook* on the ground that Russell and his group were hardly competent as spokesmen because they are not familiar with the laboratory.

These thirty years have seen the layman dazzled by the practical achievements of science, and the philosopher impressed by science's search for its own foundations. The former phenomenon is familiar enough; the latter is gradually being appreciated. It was inevitable, of course, that scientific speculation should encounter obstacles of a logical and epistemological character, and the entire movement, however unsatisfactory be its results to date, is encouraging to the philosopher. It recalls to his mind the scientific boycott of philosophy but a few years ago and of his own warning then that there is no escape from metaphysics.

Burtt points out[7] that Newton, the alleged positivist, had, perhaps unconsciously, a surreptitious, insinuated, and therefore uncritical metaphysic. Despite his celebrated rejection of hypotheses, his science had overtones and implications of a definitely philosophical character. The clandestine nature of these convictions renders them all the more obnoxious from the experimental point of view. Burtt traces these convictions to three sources: (1) the ideas of his age; (2) his method; and

[6] *The Saturday Review of Literature*, Nov. 1931.
[7] *The Metaphysical Foundations of Modern Physical Science.*

(3) extra-scientific interest such as religion. He shows us how these sources affect every scientific investigator, positivistic though his profession may be. No man can elude the ideas of his age, the *zeitgeist*, completely; he has at least a subconscious share in them. As to the implications of method, it is a commonplace that pragmatism, psychoanalysis, and behaviorism are doctrines which evolved out of methods. It is characteristic of human nature to overestimate the importance of one's own specialty, and the adoption of a method carries with it selection, preference and rejection of points of view. The mathematician, by the intrinsic limitation of his tool, is confined to the metrical or quantitative while the qualitative and substantive aspects are neglected. The biologist who sets out to explain organic phenomena in physico-chemical terms *ipso facto* avoids the essential features of life. Even within the group of physical sciences are there degrees of so-called abstraction. Thus geometry measures space and nothing else; kinematics includes time as well, but nothing else; mechanics measures space, time and mass; electromagnetics deals with space, time and electric charge. All of these branches, however, ignore certain other properties, to say nothing of the composition of bodies. The trouble is that while this division of labor is a valuable expedient, the expert should not forget that his part is not the whole.

It was Mach who said that "every scientist has his private philosophy", and one of the main problems of contemporary thought is the discovery of contraband assumptions smuggled into the territory of empirical science. Poincaré has shown what tacit assumptions and unconscious hypotheses Ampère employed in his thermodynamics. There were present in his work implications that were not "uniquement fondée sur l'expérience." It all boils down, of course, to the epistemological problem of objectivity. What means shall we strike between the view of the layman to whom the mind is a passive mirror (whose errors are thus inexplicable), and that of Kant

according to whom the mind contributes so much to the knowledge product that it vitiates, corrupts and distorts the data of experience. On the one hand we have the crude facts and phenomena which we discover in nature as revealed by the senses, the "rough data of the senses" as Poincaré calls them, "presentational immediacy" to quote Whitehead or, as Driesch puts it "givenness". On the other hand there is what the intellect introduces into nature, creates, constitutes, fabricates, confers and imposes upon its object. In other words, the mathematicians have come to realize that they are sometimes duped by their own tacit and unconscious assumptions and by certain conventions more or less arbitrary and nominal. They have come to philosophy for a distinction between the objective and subjective elements which ideas involve in an endeavor to separate the raw material from the elaborate system of artificial, abstract, formal idealization and refinement.

When the dualistic realist is told by Mach, Pearson,[8] and Hobson[9] that a scientific theory is merely a "conceptual scheme of symbols" he cannot but agree with Whitehead's complaint—

> The current answer is that, though atoms are merely conceptual, yet they are an interesting and picturesque way of saying something which is true of nature. But surely if it is something else you mean, for heaven's sake say it. Do away with this elaborate machinery of a conceptual nature which consists of assertions about things which don't exist in order to convey truths about things which do exist.

Aristotle perhaps would say that although quantity is only one of the accidents, properties or aspects of matter, still, it is a real thing and must give some insight into the nature of its subject so that the metrical character of physical science does not render it nominalistic.

The mathematicians are themselves to blame for forgetting that their categories are fallible because they are conventional, artificial and arbitrary. To assign a name to an entity or a concept which is questionable, obscure and of undetermined

[8] *The Grammar of Science.* [9] *The Domain of Natural Science,* Ch. 2.

status (being either a figment and concoction of the mind or a reality) is, Poincaré says, "not to solve the difficulty but only to baptize it." Even Thomas Henry Huxley warned an Edinburgh congregation of the inadvisability and danger of using a materialistic terminology in the bio-physical sphere and then forgetting that after all, like the x and y of the mathematician, this terminology was but a means not an end, a symbol not a reality.

The mediaeval Scholastics divided speculative philosophy into metaphysics, physics, and mathematics, dealing respectively with being, change and quantity. Physical science with its pre-eminently mathematical paraphernalia had not yet been born and the difficulty of separating the handmaid, auxiliary, appendage, tool, dummy and scaffolding from the principal body had not yet arisen.

The layman is often bewildered[10] by the square root of minus one and when he is told that the typical or average American family has 2.5 children he is positively dumbfounded, no matter how familiar he may be with midgets, dwarfs, pigmies, half-wits and other such monstrosities. Again, the schoolboy sometimes has difficulty in realizing that five cows and four horses make nine animals or perhaps nine numbers and both the schoolboy and the man in the street find the mathematical negative confusing, because in ordinary speech a negative means a zero. Thus when a man asks me if he owes me five dollars, a negative answer need not signify, as it would in mathematics, that I owe him five dollars. Consequently the arbitrary use of *plus* and *minus* to designate right and left, up and down, future and past, or proton and electron are frequently deceptive because the "meaning of meaning" is not appreciated by the amateur. Indeed the "surds" and irrational numbers of the mathematician, like the logical beings or *entia rationis* of the philosopher, are blamed on the "algebraic concatenation of inane vaguenesses"

[10] Brodetsky, *The Meaning of Mathematics*, Ch. 1.

and the "meaningless meanderings of mountebank metaphysicians." What then must both the schoolboy and the layman think when they are told that the electron is a "wave of probability" and that the proton is a "hole"? They are familiar enough with the idea of probability insofar as it enters into the gambling and betting ventures of everyday life and also perhaps as a matter of importance to the actuary of an insurance company who must calculate on risks and chances. It shocks them, however, to learn of the important rôle which the theory of probability, founded by Pascal, plays in the drama of modern science. Indeed a scientific law may be defined as a generalization of high probability and the science of thermo-dynamics which deals with random values, averages and likelihood is largely a matter of statistics. Similarly, in the realm of subatomic physics the principle of indeterminacy, associated with the name of Heisenberg, reveals the importance of probability in the infinitesimal field.

When the scientist admits on this account that his conclusions, many of them at least, are but rough approximations, the ephemeral character of his theories is to be expected and does not justify that superficial skepticism which regards them as proving the bankruptcy and futility of science. The Neo-Scholastic admits this pragmatic, relativistic, hypothetical and conditional quality of certain propositions of science, but he insists that there are both axioms and inferences which are absolute, immutable and objective. Thus the "two plus two equals four" of arithmetic and the principle of contradiction of philosophy he defends as perennial and when the skeptic contends that on a fixed star two plus two might equal five, he retorts with Chesterton that all our knowledge of the stars is based on the assumed validity of two plus two equals four.

It is claimed that man can be more detached, objective and disinterested when dealing with mathematical subjects than he can with more concrete topics, unless, of course, the topic be a lady's age, the combination of a safe or an ex-convict's number.

It was Leibnitz who said that if emotions entered into our calculations and measurements we should soon find flaws in mathematics just as we find them in the social sciences because of the tangible bearing of these latter matters on our conduct. Similarly Gilbert N. Lewis tells us that among the major abstractions, the study of which is the business of metaphysics, the group dealing with human relations is subject to prejudice.

The last mentioned writer together with Henri Poincaré [11] would seem to approach the Neo-Scholastic point of view more closely than any of the other contributors to the philosophy of science today. Lewis, for example, admits that inasmuch as Darwin and Pasteur were scientists of the first order the reduction of science to measurement is a mistake; he points out that science seeks the proximate, not the ultimate, and that in mathematical science the problem of reality is meaningless; he rejects materialism; and he confesses that " matter has not been fully defined as a scientific concept." Poincaré also states (p. 468) that the word existence in the mathematical sciences and for logicians signifies mere absence of contradiction while in the physical sciences and for naturalists it means objective reality or, as a Scholastic would say, mathematics deals with possibilities, physics with actualities. He rejects the identification by Russell and others of logic and mathematics; he declares that mathematicians study not objects but the relations between them (p. 44); he repudiates the view that the object of mathematical theories is to reveal the true nature of things and brands it as an unreasonable pretension—their sole aim for him being to co-ordinate the physical laws which experiment reveals; and he tells us that " if we were not ignorant, there would be no probability but only certainty."

The Neo-Scholastic philosopher is not loathe to admit the mathematician to the sacrosanct circle of speculative aristocracy but he agrees with Lewis (p. 23) that " the method of counting

[11] Lewis, *The Anatomy of Science;* Poincaré, *The Foundation of Science.*

can only be applied to things which can be counted." He sees in the world of everyday life with its idea of "bigger *or* better" instead of "bigger *and* better" and with its democratic gospel of the "divine right of fifty-one per cent" a practical and moral counterpart to the tendency of mathematics which would reduce quality and substance itself to quantity. It is a commonplace observation today that we, as a people, are afflicted with the disease of size and that our sense of values is partly paralyzed. There is no need to emphasize the moral. The new humanists and others have critized the pedagogical practitioners of the day not only for stressing the *how* of education at the expense of the *what* but also for their abuse of so-called "intelligence tests" and their insinuation that the mind is amenable to the yardstick. May we not ask with Wordsworth: "But who shall parcel out his intellect by geometric rules, split like a province into round and square?" Surely there are in our governments more important departments than the exchequer and among our inventions greater institutions than the adding machine!

Both the mathematician and the philosopher have been indicted on the ground of the futility of pure speculation and Euclid's reputed request that a pupil, who inquired of the benefit of geometry, be given a penny so that he would not be studying for nothing, applies with equal force to both pursuits. Indeed the devotees of these two branches of knowledge have several things in common, as has been suggested above, despite their occasional quarrels and constant rivalry, and the philosopher cannot but smile in welcome when the expert [12] in the new physics assures him that the gulf which has arisen between the wave-aspect and particle-aspect of matter and energy is the same yawning chasm and abyss which has separated the objective from the subjective since the days of René Descartes in the seventeenth century.

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[12] Darwin, *The New Conceptions of Matter.*

A PHILOSOPHICAL CRITICISM OF SOCIALISM

IN all the welter of present day diatribes on the evils of the socialistic state little has been said of the philosophical basis of such a state. The stock arguments against socialism are common knowledge; I do not intend to repeat them here. My interest is in the philosophical basis of socialism as interpreted by present-day communists.

The basis of the Marxian system is the doctrine of economic determinism. Marx conceived the economic order of society as the foundation of a process of world revolution and evolution. That is, he would demonstrate how an economic revolution or revolutions will be brought about under the guidance of certain natural laws of an historico-evolutionary process. This economic determinism is ruthless in its scope. It will determine not only our past, present, and future economic order but will also influence and change our institutions, our philosophy and religion, our laws and polities.

It is obvious, and at the same time historical, that Marx is indebted to Hegel for the essence of his idea. However, instead of agreeing with Hegel that it is mind or spirit, or the thought process which determines the historical evolution of all that we possess, he declares: "To Hegel, the life-process of the human brain, i. e., the process of thinking, which, under the name of 'the Idea,' he even transforms into an independent subject, is the *demiurgos* of the real world, and the real world is only the external, phenomenal form of 'the idea.' With me, on the contrary, the ideal is nothing else than the material world reflected by the human mind, and translated into forms of thought." [1]

Furthermore, this economic evolution of Marx is a dynamic thing. Being evolutionary, our world must constantly be in

[1] Karl Marx, *Capital* (New York: Humboldt, 1886), p. xvii.

change and so must the men and institutions of our world. It becomes his duty and ours according to his philosophy to investigate this changing world of ours and try to perceive the different stages in it and their relation to one another. We must learn why one stage follows another in accordance with the natural laws of an historico-evolutionary society. The material, not the ideal is the force which is constantly revealing to us its ever changing manifestations in our society and all that our society contains. And socialism will be the next stage of our societal order, a stage and a change wrought and determined by the laws of historical evolution.

The philosophical fallacy of this doctrine in the light of the attitude of the communistic state of today is simply this: It is assumed that the universe is dynamic, a thing constantly evolving and forever passing through a number of different stages. From this assumption the attempt is then made to staticize the universe at its present stage and postulate that stage as the final culmination of the evolutionary process. Thus Hegel makes the German state the final stage in the development of the divine mind. The communists would make the present communistic state the final stage and perfection of an economic and materialistic development of the world.

But in neither case would such states be the logical outcome of the fundamental assumption here that the world is in a process of change, that the world is dynamic, that the world is developing. For who can say when the process of development has really reached perfection or the final stage. It is just as logical to declare in opposition to Hegel that a higher state than the German will be reached with the passing of time. And the same holds true of the communistic state. Beyond that state, in the course of time, there may loom an altogether different type of state—a despotism perhaps. Thus even granting the assumptions of both these schools of thought, the Hegelian and the Marxian, the kind of state that they are

striving for represents not a logical outcome of their own theories but rather their own desires thrown into the world process in the hope of stopping it at the particular point which is agreeable to their theories. Or better yet, their state is not arrived at by logic but by a preconceived desire molded into judgments on the finality of the world process.

Again, it is not necessary to grant, along with their assumptions of world evolutionary process, the added implication that this process is always directed toward perfection. It would be just as easy to contend that the communistic state is one of the lowest stages in a process of historical devolution. Or, drawing an analogy from the business world, we might say that it is merely the depression phase of an historic cycle and that, sooner or later, after a revival we shall come again to a prosperity phase, perhaps another thirteenth century of the historical cycle will appear.

We might also deny the whole doctrine of an historico-evolutionary development of man and society. It is just as plausible, logical, and true to say that the state rests upon certain eternal and unchangeable truths given by God to man. The various stages in our societies and polities then would represent not a change or progression upward from these truths to higher truths—that would be contradictory in that it would deny the unchangeability, eternality and perfection of the God-given truth. Instead, the different stages of societies or polities according to this theory must be attributed to something else than a mere process of development in an assumedly true direction. In the light of such a theory their difference (stages of society) would merely represent attempts on the part of man to harmonize his society with eternal truth. Or better, it would mean the struggle on the part of humanity to organize the various and changing factors of society in accordance with God-given laws. In essence, perhaps, we might say that it would constitute a retro-progression.

My point here may be better taken if we turn for a moment to the fields of ethics and law. In both these branches of knowledge we desire stability and permanency, for upon these rest the destiny of the state and society. No one cares to live in a disordered state where fundamental laws may change every day and work untold misery upon everyone. We wish security and freedom, and we desire laws which will realize those wishes. Our laws must not rest upon mere expediency—that would bring change and disorder only. I do not mean to imply, however, that all change is fruitless, false, untrustworthy, and undesirable. We do want change—life would be insufferable without it. But we want change to take place along lines of order, principle and purpose. What we desire is a changing society but an orderly one, not a changing society and a disorderly one. And the difference here rests upon the fact that in the former condition change is purposive and directed according to principles we believe and accept as true. In other words, we desire laws which are permanent in their truth, but which are flexible in that they may be applied to a future changing order of society.

This in general, I believe, has been the attitude of the law. There has been much condemnation of precedent in law, and, at times, the tortoise-like progress of the law has seemed ridiculous to many. But law must perforce move rather slowly for it is weighted and burdened down with ancient truth. The slowness of the law is merely due to the tortuous application of old and confirmed principles to new conditions and situations.

Far too often we marvel at the amazingly rapid progress of the physical and social sciences and wonder why law should be so slow and, allegedly, unprogressive. Consider, however, the nature of these stripling forms of knowledge. The physical sciences in the past have appeared to move rather rapidly but their progress has been in the direction of established principles. To achieve such they have had to run the gamut

of hypotheses and theories. Once having arrived we perceive that their progress is much slower. Already I believe any casual observer can notice a great difference in the physical and the social sciences. The former have established fundamental principles, and the adagio of their gait toward new truth will change to a lento. They are and will be for some time occupied with applying these fundamental principles to particular phenomena, whereas, formerly, the particular was seized upon for its truth-making qualities—now it is to be conformed to the universal. The social sciences are still in the process of groping after first principles. The changes taking place in these sciences are amazing. Day after day witnesses the formation of new principles and "facts" and the overthrow of the same. But as soon as they reach the permanently fundamental they too will change the tempo of their progress, and our bewilderment will give way to satisfaction in their ever increasing stability.

Just what has given to the law this stability, this permanency of principle, this ancient and weighty truth? The answer lies in the realm of ethics. The principles of law are fundamentally true and permanent because they are based on certain ethical concepts which are accepted and believed in as true.

Why do we believe and accept as permanent truths the laws on homicide, theft, adultery, property, etc.? Because they are based on our ideas of good, justice, natural rights, etc.? Not very readily, I think, for one may well ask why we accept these ideas as fundamental truths and just what constitutes their truth in each case. If we turn to the moralists and the philosophers we get varying answers and confusing theories. They may all agree that we need the good, the just, the right, etc. as principles on which any permanent societal order should be based and as conducive to the ultimate end of mankind. But they are not in accord on their meanings of the good, the

just, the right, and the ultimate end of mankind. As long then as we have recourse to everyday moralists and philosophers we will never reach or acquire any fundamental truths. The very nature of their subject limits the exactitude which they would hope to achieve. The reason for this is that their subject is non-mathematical and, therefore, lacks the demonstrative nature of the sciences which rely upon a determinate nature. The moralists have to deal with the human equation which strange to say is not an equation at all because mankind cannot be reduced to measurement. Consequently, I believe that the only other recourse for any moralist is to rely upon a revealed truth for his certainty regarding ethical principles. This we have in the teachings of the Church as given to that institution by God.

Upon this basis does the certainty of the greater part of our legal principles rest today. And it is this basis which gives truth, stability, and permanency to our laws. To progress, then, we must constantly look back to these truths and keep a watchful eye upon them as we institute any necessary changes in our social order.

The communist, in denying such a basis for progress, must flounder about in a disillusionment which is founded upon a contradictory basis; and which gives no truth and progress, but empty vagaries of laws and morals, conflicting, illogical, and unsatisfactory because they are based upon the conceits and desires of man instead of upon the goodness and purposiveness of God.

Another logical fallacy of which the communists are guilty and, which is deserving of attention, is the fallacy of the *argumentum ad baculum*. In logic this means the appeal to force or threats in order to establish the truth of a proposition. The use of this type of argument is all too common in the modern state, and the communists are not the only ones to use it. In Italy, for example, what Mussolini enunciates is taken

by him to be true and then accepted by the people as true because they fear the "big stick" of the dictator. Likewise, your present-day communistic rulers assume all of Marx's teachings as true and then force their assumed truth upon the people. Thus, they will declare the truth of philosophical materialism, but instead of proving such a proposition in a rational manner they attempt to establish its veracity by force. Consequently, the teaching of anything but philosophical materialism is banned in present-day Russia. All Marxian teachings are forced upon the students who dare not question the source or the veracity of these revelations. Truth is made here, not demonstrated, and the criterion of truth will be found in the expediency of propositions and principles for use in the assumedly true social order which itself has been established by force. Anything, then, which conforms to the socialistic assumptions will be assumed to be true and the demonstration of this truth will take place by means of the *argumentum ad baculum.*

The doctrine of Marx results further in a certain amount of relativism and individualism in any social order. If we grant that we may reach a socialistic order of society, the truths at the basis of that society would be merely relative inasmuch as the doctrine holds that society is in a continual process of change. Thus socialism would be merely relative to the existing conditions of the state. The morrow may find socialism replaced by another form of polity.

Socialism would result in individualism in that man would become the measure of all things. The material or the economic factors may determine our social order, but, in the end, it will be the duty of man to determine the effects of the working of these universal forces and to make use of them to his seeming benefit. Thus the laws of such a state would be laid down by man even though the material force which determines our social order made necessary the change. Man in

the end must be to some extent outside the process in order that he may interpret and use the changes which are being effected. But, after all, man is man, and his measurements will be determined by his emotions and desires and by the economic forces about him. Man is truly the measure of all things according to such a system, but the mere fact that it is man who is interpreting the social forces and endeavoring to set the limits on human action makes the system not only relative but individualistic, and, therefore, subject to error at its foundation. To submit to the Protagorean doctrine would be to imply that the utopia has not been reached, that the communistic state itself is not the final outcome of an historical process, but that it too will succumb in the end to new truths formed at will by man which may prove devastating to the present social order in Russia.

Undoubtedly the fervent communist would be raucous in his denial of this criticism. He might vociferate that change is to be looked for in the communistic state, that further progress and perfection can be attained, that the political bases of Russia are merely relative in their truth and subject to further development. But would he admit that the change would not be for the betterment of the communistic state and yet in accordance with the natural laws of history and evolution? And is he so prone to admit the logical outcome of his own assumptions?

I believe that not only does his own interpretation of the historico-evolutionary process belie this protest, but so also do the facts. I think that every one who reads the reports coming out of Russia today would admit that the Russian Government regards itself as the most perfect state. Unconsciously they force this implication upon us through their egotism. Again, to one who has delved into Russian literature of the past few decades, the impression must certainly have been obtained that the Russian intellectual virtually worships the doctrine of Karl Marx and idolizes the man. And this reverence of Marx has

had its final flowering in the veneration that the communist of today holds for his state and in the semi-deification that has been made of its founder. Surely that seems to point to an attitude of finality with respect to the perfection of the communistic state. It indicates, too, I believe, a predilection, whether conscious or not, to regard the foundations, the political and economic doctrines of the communistic state, as partaking of something of an absolute nature.

My point here can be made still clearer if we attempt a psychological approach to the problem. It is my contention that the communistic state of today has as much of an utopian character as any of the fantastic schemes of the early French socialists.

A distinction has been made by some writers between utopian socialism and non-utopian socialism, and it is usually convenient for them to point out that most of the earlier socialistic doctrines and ideas partook of a distinctly utopian character; whereas, the later socialists, inasmuch as they attempted to found their state on natural and historical laws of an evolutionary universe, were not utopians but prophets. Now my point is that prophets will always turn utopian when they find the opportunity. Prophets are usually of a despairing turn of mind but none are so quick to seize opportunities and turn their prophecies into actualities if it is at all possible. The so-called laws of development can always be changed but opportunities must be capitalized. Of course it is not often that a revolutionary thinker has the opportunity of creating and instituting his ideas, hence he must build up a philosophy of despair, complain of the evils of the world, and point with ominous gesture to a coming cataclysm when his ideas, which he formulates and organizes in accordance with his own laws of social development, will be grasped by humanity with gratitude and form the basis of the new social order which he has predicted. In other words, not finding a universal acceptance of his ideas at the

present time, he will seek his reward and satisfaction in postulating the acceptance of his ideas by a future generation.

The essential difference between an utopian and a prophet is merely one of time and common sense. The prophet has sense enough to see that he will probably not be able to secure acceptance of his ideas at the present time; therefore, he tries to give his system a more logical character by postulating that it must necessarily appear at some future date and in accordance with law. Fortunately, he does not attempt to set any definite time; otherwise, we would be deprived of all those interesting revolutions which occur when expeditious to the prophets or their subprophets, and certainly not in accordance with a definite law of social development subject to a fairly accurate time element. Concluding this analysis we may say that the utopian endeavors to realize his philosophy in his own life time; the prophet, distrusting that possibility, points to the future. But the prophet, it is my belief, would also realize his philosophy in his own life time if circumstances presented themselves expeditiously. If this occurred, it becomes just as easy for him to proclaim that the new order is the logical outcome of social evolution now as in the future.

Thus there is small difference in the two attitudes, for that is what they amount to in the end—merely attitudes. And I believe that it is quite possible to hold that the communistic state of today is as utopian in essence as any of the ideas of the earlier French socialists. The only difference being that Marx was an able prophet and that the communists, having learned his philosophy, made use of it at the proper time and then pointed to their state as the consummation of the predictions of Marx. My criticism here is that the present communistic state occurred only when the circumstances were favorable and not in accordance with the exact laws of social development. In fact, the communist revolt should have occurred first in England or America which represent more advanced stages of capitalist

development than Russia. Again, the present communistic state represents an utopia inasmuch as it represents fairly faithfully the ideal of its founder who knew not what to place after socialism in his account of the historical development of human society and seemed content with implying finality to that stage.

On the other hand, the doctrines of the communist state based on the ideas of Marx, or even the ideas of the earlier socialist utopians represent philosophic ways of looking at life. Whether right or wrong we might say that they are honest efforts toward a betterment of life for all of us, and as such they may be ranked with other efforts of a similar kind. Like Plato, Bacon, More and others the socialists are merely endeavoring to change according to their view " this sorry scheme of things entire and remold it nearer to the heart's desire." Whether pacific or violent they possess ideals which they would hurl into the mechanism of an ever changing universe in an effort to realize stability at the point which they see fit. I believe that we are all Parmenideans at heart. We want stability, for stability means rest and surcease from the fortuitous nature of our world as we see it. The communist espouses a philosophy of change and evolution but he too, at heart, desires stability and permanency. Like ourselves he desires change, and not merely change for the better but change for the best. His desire for finality and stability forces him to contradict his intellectual theories of a universe constantly changing and evolving, in order to meet the requisites of the heart. Fundamentally, we might say that our attitude may consist in looking backward and discovering golden ages or in looking forward and endeavoring to set our ideas in the near or far future and believing in our own prophecies.

The latter attitude we have dealt with sufficiently, but it might be well to turn to an analysis of the former. The communist would condemn all Christian philosophy under the for-

mer attitude and believes the latter is the more correct, the more logical, and the more progressive.

To an extent we may say that he is right in his criticism of this first attitude. As long as we place our reliance in past ages we should be condemned. Far too often Christians have reflected on the glories of the days of the Fathers, on the age of primitive Christianity, or on the greatness of the thirteenth century, or any other age in which they may find solace. Any competent historian, however, can easily point out that these so-called golden ages have been grossly overestimated and that we are as well off today as at any time in the past.

The idea of a golden age then must be discarded. But we should be made to realize that this attitude of "looking backward" does not necessarily need to be stigmatized as "romanticism" nor condemned as a defeatist policy. Instead, we ought to take new courage, and with our ideals behind us rather than our dreams of golden ages, we may step forward to utopias which are more than the senseless unravelling of dreams based upon imagination, hope, despair, and hatred.

After all we have our ideals and our truth, all that we need to do is establish them in practice. The effort, I admit, will be a tremendous one. The Church has been carrying on for two thousand years and who will gainsay her progress? The task is almost insuperably difficult for we must take account of the nature of man. A creature who is both rational and animal cannot be transformed in a day. Even your most fervent evolutionist will admit that fact. Those among them who predict the appearance in the future of a new stage of development believe that this stage will bring forth a higher type of man—a superman, one who has been freed from his more basic animal characteristics. And even the evolutionist is quite ready to admit that such a creature cannot be produced within a generation—far from it—centuries of time would be more acceptable and plausible to him. Consequently, why should we be so

impatient with present-day conditions, even admitting them at their worst. Suppose that we do change and revolutionize society. Does that necessarily mean a change in the fundamental nature of the individual? Can revolutions and soviets eradicate original sin?

Again I say that we must exercise patience. It is more than futile to attempt to actualize dreams that are nothing more substantial than dreams. Instead of dreaming about utopias, it would be better to dream a bit about the ideals and the truths that we already possess. The dreaming will not make them come true, but at best it may give us more rational hopes and stimulate to more logical and conservative action. For if truths and ideals are of a rational nature that will be sufficient reason for a logical method in their application and realization. But how can that which is based upon ideas nurtured and created by despair and prejudice and with small semblance of truth ever hope to attain logical practicality? Lacking a fair amount of rationality in theory, can it hope to attain the utmost of logic in application?

The reason for these strange vagaries of the human mind, I believe, is simply this: our own life is all too brief and fleeting. There are those among us who are always endeavoring to achieve too much within the compass of their short life. Some would desire a better world and, being impatient, become obsessed with the idea that the world can be changed radically and suddenly. The strength and passion of their desire naturally carries them beyond logic. Even though we may convince them that progress such as they desire is impossible in a short period of time, still their desire, their fanaticism for reform leads them on with false hopes and, eventually, lands them in a despair and cynicism frought of their own making, or to violence and martyrdom of their own creating.

The communist would fall in this latter class. It is true, of course, that he has not reached that stage that I have pictured

in the above paragraph. He will not consciously admit violence or martyrdom, nor is he at present despairing and cynical. His temporary success at revolutionizing society has, in my opinion, given him a false confidence. He believes that his dreams have come true, that his utopia has been realized. But I am firmly convinced, on the basis of reason, and history, and on the metaphysics and psychology of the individual that these dreams, based as they are on insubstantial grounds, will eventually have a rude awakening.

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BOOK REVIEWS

Matter, Life and Value. By C. E. M. Joad. New York: Oxford University Press, 1929. Pp. xviii + 416.

This is a book of many close-written pages in which the author has "endeavoured to outline a metaphysic which affirms the reality of at least three different classes of entity, matter, life, and objects of value. . . . Given the fact that life, matter, and value proclaim themselves as distinct and in some sense autonomous reals, each of which resolutely refuses to be resolved into either of the others, my task has been to find accommodation for them within the bounds of a single universe, and to describe the manner of their relationship." (Preface) The result is a vast synthesis for the complexity of which the author "is less disposed to apologize" in so far as the universe itself is probably even "more complicated than, at our present level of knowledge, we can possibly suspect."

The author's style does not always tend to offset the general complexity of the subject-matter. At times there is almost a too conscious use of many qualifying phrases, as if the reader were otherwise in danger of forgetting that the whole elaboration of the author's metaphysic is one of surmise rather than of dogmatic assertion. However, at other times the style attains real heights of pithy sententiousness; e. g. "a world which can be fashioned after our heart's desire is for that reason not the world which our heart's desire" (p. 34); or, "it is of the essence of value that it should be independent of that which finds it valuable." (p. 35) To help the reader keep in mind the general argument of the treatise, there is an excellent "Synopsis of the Argument" in six pages added to the customary table of contents.

An appreciation of so large a synthesis should hardly concern itself with quarreling over details. The following paragraphs shall aim rather at giving a general idea of the content of the book, with some critical comments of wider reach.

I

The first chapter examines the claims of vitalism and materialism, and takes its rise in science. "If you want to know how the universe appears, you must go and look; in other words, you must ask the scientist. The task of philosophy only begins with the interpretation

of the appearances which the scientist has catalogued for inspection, with the attempt to discover their meaning and to assess their significance." (p. 4) But scientists are divided on the question of materialism or vitalism. The materialists contend that growing knowledge of physical matter will enable us to explain life fully in terms of matter. Against them, the author suggests that increasing knowledge of matter will reveal the presence of life in all of it. Even present knowledge points to "spontaneity and unpredictability" as characteristics of the ultimate constituents of matter. A study of living beings confirms the uniqueness of life and shows us moreover that life is something more than adaptation to physical environment, since it would else be impossible to explain the appearance of higher forms than those best adapted, e. g. man. "It seems difficult to avoid the conclusion that evolution is the expression of some force or impulsion, which, not content with achieving relative safety for its creatures by means of adaptation to environment, proceeds to complicate itself ever more and more dangerously in the endeavour to evolve *higher* forms of life. It is on this assumption that this book is written." (p. 26) The conclusion of the chapter is "a thoroughgoing dualism which accepts both life and matter as real and irreducible facts." (p. 29)

Chapter II presents "The Case for Pluralism" against various theories of monism. Theological monism, according to the author, believes in a personal God and creator of the universe who is identified with the whole of reality. To this he opposes the dilemma: "If He [God] did not wish to prevent it [evil], He cannot be wholly good; if He had not the power to prevent it, He cannot be wholly powerful. Either alternative demands a dualistic hypothesis." (pp. 44-5) Similarly an examination of two kinds of philosophic monism, that of idealistic monism ("the universe as thought") and vitalistic monism ("the universe as change") leads to the conclusion that reality is varied and diverse; "it is not featureless and therefore monistic, but individuated and therefore pluralistic." (p. 68) As soon as reality is considered a whole or unity there is no accounting in terms of it for variety, error, multiplicity. Hence there must be another factor, and so the unity is not complete, the world being at least a duality. (p. 77)

Chapter III presents the author's view of the knowledge relationship. "Before it can be stated it is necessary that I should assume as self-evident the truth of the following proposition. 'The knowing mind is always aware of something other than itself'." (p. 81) This is axiom

that "lies at the basis of most realist theories." JOAD finds it necessary to take the axiom very strictly. Any theory that admits any synthesizing or representing or manipulating of its object on the part of mind leads to idealism or solipsism. The mind's function in perception is simple awareness of what is not mind.

In perception the mind is aware of sense-data but only through an intervening medium including the nervous system. That is, "the nature of the sense data we experience is . . . modified by *physiological* but not *psychological* conditions in ourselves." (p. 93) Hence the locus of the experienced events; every such event "must be supposed to occur at the place at which it is experienced, namely, at the end of the neural chords which bring the message of the event into the brain." (p. 98) This explains why "no 'physical object' ever appears in the same way to two people." (*ibid.*) In fact there is no known physical object as such behind the appearances for JOAD anymore than for Kant. For "with the one important difference that mind has played no part in determining, regulating, or modifying the presentations, it is Kant's view of the status of the physical object that I am asserting here." (p. 100)

As in perception so "mind in thinking is always aware of something other than itself. This something is not and cannot be its own thoughts, for the reason that there is no such thing as thought." (p. 111)

Mind is simply in every instance limited "to a becoming aware of what is there." (p. 113) Similarly, therefore, "all reasoning involves either a direct recognition of what is called a self-evident proposition, or else a recognition that some other proposition follows directly from the self-evident proposition and is therefore true. But the second recognition is as direct and as indefensible as the first, and the distinction between immediate intuitional apprehension and mediate rational conclusion falls, therefore, to the ground." (p. 115) Hence we have the conclusion that "all induction rests in faith; faith, moreover, of precisely the same kind as that involved in the acceptance of the dogmas of religion. . . . In cogency of reasoning, science has no superiority over religion; the difference is that religion remains content with self-evident propositions, while science proceeds to deduce from them non-self-evident propositions by self-evident steps." (pp. 115-16) "The basis of both logic and science is irrational, in the sense that no grounds can be given for our belief either in the validity of reasoning or in the order of nature, that the principle of induction and the law of cause and effect, which are normally invoked to guar-

antee the one and to ensure the other, cannot be employed to establish their own validity, and that we are thrown back, therefore, upon intuitive apprehension, which is at once unanalysable and indefensible, as the test of truth and the criterion of reality." (pp. 117-18) In a similar way our appreciation of value rests on "unanalysable and indefensible intuitions . . . aesthetics and ethics rest, in other words upon a basis as irrational" as logic and science. (p. 118)

To come back to the activity of thought, its object is not the same as that of perception; yet it is not the product of mental interpretation or construction, for all mental acts "reveal to mind the different constituents of the external universe." Hence, since we cannot "invoke a mental existent to figure as the object of our thinking, we must admit the existence of the table of which we think as an object of thought, which is distinct from the table we see." (p. 123) In an earlier page the reader was told (p. 111): "The Smith of whom you think is different from the Smith whom you perceive. But the Smith whom you perceive is really Smith. Who, then, is the Smith of whom you think? I shall return to this question in the next section."

In that section we learn that objects of thought form a distinct class of reals, namely subsistent objects. "The laws of logic are not prescribed by mind to things; they are grasped by mind as being laws governing the behaviour of things. . . . Thus the laws of logic are given in the real, just as sense-data are given. . . . Thus we are driven to postulate the presence in the universe of objects which have neither physical nor mental existence, but which are discovered by mind as forming part of the external world. It is customary to say of these objects not that they exist, but that they subsist. . . . There is a subsistent object for every physical object considered as a set of sense data, and there is also one for each sense datum in the set. Subsistent objects include everything that can be thought of and also all the relations between the things that can be thought of; they include the counterparts of everything that exists, and of everything that may or might have existed but does not." (p. 124) These subsistent objects are neither physical nor mental and they "have no place in the spatio-temporal system; . . . they are little pools or crystallizations of mind stuff which can be entertained by mind in thinking and contemplated as its objects." (pp. 134-135)

We are now ready to grasp better the "Vitalist Hypothesis" of the author expounded in Chapter V. Life is tentatively defined as "that which, while not itself material, possesses the capacity to enter into

relationship with the material." (p. 140) "All life is by its very nature purposive" though not always consciously so. Knowledge of the purpose of life advances with the advancing of life itself, the purpose being that life transcend itself and ever develop higher forms.

"What is true of life as mental is equally true of life in general; the distinction within life, between what is mental and what is not, being an unreal one." (p. 145) Perhaps there was a time when lifeless matter existed; but "all the matter on this planet at any rate is in some degree living *now* . . . in respect of some portion of its total make-up." (p. 148) If JOAD begins with flowers, therefore, it is not because these are the lowest form of life, but rather because "we do not know even in the most rudimentary way what the life of a metal is like." (p. 149)

The evolution of life is progress in awareness, and so we pass in an ascending scale from plants to animals and man. In the latter "life succeeds for the first time in emerging at the level of what may properly be described as mind", whose differentiating characteristics are thought and self-consciousness, in which it is aware of subsistent objects. But the power of life is not limited to the latter and in certain advanced minds goes beyond the level of contemporary achievement to higher objects (values) through aesthetic, ethical, and mystical experience. (pp. 152-4) "This is the *ultimate* purpose of evolution, that life may rise above the awareness of matter to the contemplation of reality." (p. 155)

In the process of evolutionary emergence the material and the vital never commingle radically to form a higher level of life; the function of the material is rather "so to limit the operations and powers of the vital as to provide it with a necessary stimulus to transcend the limitation by emerging at continuously higher levels." (p. 169)

In this scheme the position of the human individual is that of an interruption or diversion of the main stream of life, yet in some sense continuous with the latter and deriving his energy from it. At death the individual is again merged in the universal stream, but the acquisitions made during his existence as an individual remain as a permanent enrichment of life. Only thus can one explain the fact that new individuals "recapitulate in a few months all the past history, psychological as well as physiological, of the race." (p. 203)

Life itself is not all-powerful; there is a source of evil or obstruction which must be sought in the individual. The latter, separated somewhat from the main stream of life "acquires a freedom and spontaneity

of its own, in virtue of which it may pursue a course different from that of the main stream, a course, in other words, other than that which we may suppose it has been created as an individual to follow." (p. 205) This free will is the source of "the errors, difficulties, degradations, and antagonisms of individual organisms." The two main ways in which the individual may diverge from the main stream are sensuality which "forgets the universal in the individual" and asceticism, which denies self. "Each is a frustration of the purposes of life as we have imagined them." (p. 209)

A final chapter of Part One concludes JOAD'S exposition of "Life and the Material World." It is concerned with genius. The genius is a sport or mutation in the evolution of mind, prophetic of the future higher advances of mental life. He is spurned by his contemporaries, and later appreciated. In our fast moving age this change even occurs within the life-time of the genius, as the case of Shaw exemplifies. Didactic literature is the vehicle of the genius, who is akin to the preacher and the prophet rather than the musician. He gives new higher ideals to the world which "may take the form of a new code of morals, a new attitude to religion, a new vision of beauty in art, a newly apprehended significance in nature, a new view of man's relations to the State or to his neighbor, or a new conception of the fundamental character of the universe and of man's status within it." (p. 226) In this "the genius, we say, is responsible neither for the work he does nor for his efforts to do it. He writes what he must, not as a free agent but as a chosen vehicle for the manifestation of that which animates yet transcents him." (p. 222)

In four less extensive chapters, Part II on "Life and the World of Value" discusses the "third independent factor or element in the universe, namely, the element of value." It is the ultimate object of life to overcome matter and "emerge at a level at which it is continuously and directly aware of value." (p. 265) The source of value lies not in the world of becoming but of being, primarily that of aesthetics and ethics. The author argues against utilitarian ethics as against the ethics of Thomas Aquinas. According to the latter, man is said to act either through necessitation by a rational appetition of the good, or else by irresponsible impulse; in neither case are the actions "really meritorious just because they are not really free" (p. 320) The apprehension of goodness, like that of beauty, "is direct, intuitional, and non-rational, partaking in its nature, though in an elementary degree, of the direct intuitional experience of the mystic." (p. 324)

There are various dissertations in this part and the last chapter of the first part on form and content in poetry, on music, e. g., which do not seem so integrally related to the entire argument as the above matter is, but which are very readable and interesting in themselves.

Near the end of the book, the author has this to say about God (pp. 391-2):

"I have carefully refrained from including in the world of value any element which might be identified with God. This is not because I deny the existence of such a Being, but because of an inability to make any positive assertions about Him. To arrange the world of value in a hierarchy beginning with the subsistent objects and ascending upward through Beauty, Truth, and Goodness, to God, would have been easy. It is even possible that such an arrangement might represent the structure of reality; but I do not feel that the evidence is sufficient to justify the assertion."

II

There is an initial difficulty in the offering of any criticisms of the complex synthesis, whose presentation in the few brief pages above is necessarily very inadequate. Many difficulties come to mind in the reading of the synthesis; but difficulties as such are not yet a telling argument against a view. Besides, any criticisms that may be proffered of a system based primarily on immediate insights, are already answered by the system even before they are made. "We cannot," says the present author, "defend or justify our intuitions to those who do not share them; all that we are entitled to do is to assert of such persons that, since they fail to perceive connexions of which every one else is aware, and since, moreover, life expresses itself in the activity of awareness, they are in respect of their failure not fully alive, or rather life has failed to reach in them the level at which it has emerged in the rest of us." (p. 118) This amounts, crudely, to saying: "That is the way I see it, and if you don't, it's just too bad about you!" Insofar as the author said it first, he has the advantage of the reviewer and of all others. Nevertheless, I shall venture to point out a few difficulties, some of which seem to me to amount to downright inconsistencies.

It is evidently a main "thesis in this book that certain regions of reality differ not relatively but absolutely, and that there exists, therefore, between them a real discontinuity." (p. 332) Matter, life, and value are strictly irreducible. Yet one looks in vain for convincing evi-

dence of the mutual irreducibility of matter and life. "Since I have already advanced reasons in favour of the view that life is a distinct and unique principle not to be analysed into material terms I am committed to a thoroughgoing dualism which accepts both life and matter as real and irreducible facts." (p. 29) But JOAD has in fact reduced matter to life; and from his general presentation one could as well speak of an irreducibility between mind and non-mental life. Just as vital entities are for him "only in the most rudimentary sense mental, from the beginning" (p. 169), so also "all things, I shall say, are living, but our present knowledge is insufficient to detect the mode of their vital behaviour." (p. 23) Yet life and mind are one, while matter and life are kept strictly apart.

There is another reason why JOAD should not speak of "the world of inorganic matter which is studied by physics and chemistry" as discontinuous with life. Indeed "the physical world is in space-time, obeys the laws of physics, and is material and perceptible to the senses" (p. 382); and "there is, I hold, no reason for supposing that the objects which are revealed to the monad's awareness are other than what they appear to be, from which it follows that some of them at least are material." (p. 29) Yet "it is necessary to regard the real as presented in perception as sense data, and to dispense with the notion of a physical object underlying the sense data." (p. 134) There should be no mistake about this; hence when elsewhere there is mention of physical objects, a footnote makes the requisite explanation: "The term physical objects is of course used in a Pickwickian sense. Actually, as I have tried to show, a physical object is a series of sets of sense data." (note 2, p. 126)

Another difficulty arises out of the irreducible trinity. What position is held by the subsistent objects in relation to matter, mind, and value? The subsistent objects "which are neither physical nor mental, and which have no place in the spatio-temporal system" are nevertheless "exceedingly numerous, far more numerous than either physical objects or mental acts." (pp. 124 and 134) Some of them "are the repositories of value" (p. 381), and all are "little pools or crystallizations of mind stuff which can be entertained by mind in thinking and contemplated as its objects." (p. 133) What *are* they?

One is tempted to consider them mind-made, but JOAD distinctly repudiates this view even in regard to such subsistent objects as "sirens and unicorns" which "are real. . . . This is important because if these particular objects can be defined as mental existents dependent

on mind, then all objects may, for all we know to the contrary, be similarly dependent, that is to say, the mind will be shut up within the closed circle of its own created world." (p. 137) JOAD definitely repudiates all theories that lead to solipsism; he wants none of it. But does he escape it merely by postulating that objects of awareness must needs be other than mind? What happens if physical objects, as he states, reduce entirely to the observer's physiological sense data? "Each mind is the centre of a private world, and its function is limited to the awareness of that world's constituents," we read on page 98. Is not that solipsism? And as to other minds, in terms of the definition of knowledge specifically as mind's awareness of that which is not mind, how can any mind ever become aware of other minds?

Ever recurring throughout the pages is the difficulty alluded to above regarding the criterion of truth or certitude. There is a good statement of the position of philosophy as interpreter of the findings of science, quoted in the second paragraph of this review. But throughout, philosophic interpretation seems to be a matter almost of imagination; e. g., "the purposes of life as we have imagined them." (p. 209) And science is frankly said to be a matter of faith, of a faith that is not different from the faith of religion. In summing up his view JOAD says on page 405: "The most logical train of thought, the most objective scientific analysis ultimately rests, as I have tried in Chapter III to show, upon a basis of faith, faith in the one case in the validity of the reasoning process, and in the other in the rationality of the order of nature, and it may well be that such a feeling of faith is for human beings the ultimate (because the only) test of truth." There is a sense in which no one can deny the first part of this statement, though much can be said by way of objection to the second part. If all our knowledge must rest on an initial faith in reason and nature, such faith is but a presupposition of knowledge and need not be more. In terms of this presupposition, consciously or unconsciously entertained, we may then go on to build up our knowledge by means of the various traditional criteria. It is quite another thing to say that the only test we have for any certainty, even that of mere implication, is such a "feeling of faith". If we accept the latter, it would indeed be less difficult to agree with the author when he states that both science and religion are based on the same kind of faith. But it would not be so intelligible why the author is unable to say anything about God since he even accepts mystical intuition while he can say apodictically that "some animals obviously think in a rudimentary way." (p. 378)

Nor is it evident why the author can be certain that there is no personal immortality, and that the individual at death falls back into the general stream of life and is not merely annihilated. Either faith and intuition must be given free reign, or else there are other factors that are decisive in true knowledge.

In the "Synopsis of the Argument" we are told that "Existence of Free Will in monads implies ability in them to act otherwise than in accordance with purpose of life" (p. xv); while on page 195 we are told very definitely: "Free will, therefore, in the sense of an individual will that can be other than, and even on occasion opposed to that of the vital principle of which the individual is a manifestation, does not and cannot exist." It is the latter view that is in fuller accordance with the general tenor of JOAD'S synthesis. And so the genius, as we have seen, is not free; he is an irresponsible agent of the general life-force. If we add to this the fact that the life-force needs opposition in order to stimulate it to advance, we are on ground that is illuminating in terms of history. There is something of the fatalism of the old Stoic philosophy in all this.

And there is more. For we have here the elements of what has been traditionally accepted as the Hegelian view. The glorification of "opposition" and the irresponsible heroism of overcoming it for the sake of the advance of life! And all this is the name of realism!

Can we speak truly of realism (not Realpolitik) when we divorce value from life, especially from human life? JOAD does not seem to view value in terms of individual human personality, nor for all that in terms of human society. Yet it is precisely in social institutions that human indivduals must realize the personal values of human life, and realize them actually, not only in a theoretical abstraction that is most unreal. And if they are realized in social institutions, should we not be pragmatic enough to examine these in their actual working out in the light of human experience? JOAD seems to have no place for such an attitude. He is pragmatist only in so far as he looks for the constant emergence of something new. His whole attitude, so to speak, is based on the development, from within outwards, of more life. Given an intuition of anything that is *other* than what has so far been said or written, and we are face to face with new values! No need here of investigating social consequences, or seeing how this works out in terms of human aspirations. The genius is simply not appreciated in his day! If JOAD had given thought to personal human values,

he would also have avoided such absurdities as the denying of all value to asceticism.

Today civilization and culture are being weighed in the balance. The majority of us are not yet far enough advanced in the stream of life to accept as an ultimate decision the intuitions of irresponsible "genius". For us it is imperative to keep our mind's eye focused on the realities of this earth. We must read the conditions of the actual present in terms of the lessons of the past, and not accept anything merely because it is other than the whole past and present. Our hope lies only in the intelligent guidance of life as far as this is possible for us, and not in a blind surrender to the extravagant manifestations of "life". Such guidance is an imperative task today, and one that will tax to the utmost all the energies and patience the human race can muster. Yet, naturally speaking, it is the sole basis of hope for the future of our life on earth, of the buoyant hope that is ever rooted in well-meant human endeavor—a hope that is of the highest value in human life, but for which JOAD seems to have no place in his realm of values, or in his entire synthesis.

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Essai sur le Bergsonisme. By RÉGIS JOLIVET. Paris: Emmanuel Vitte, 1931. Pp. 162.

The three lectures which have been gathered in this volume were delivered not in the class-room, but before a lay audience interested in what is still called in France the New Philosophy. Hence the broad character of this exposition of Bergson's doctrine in which the author has attempted to define its spirit and has limited his discussion to such points as are regarded as essential by Bergson himself. The tone is one of sympathy toward a movement which, in spite of its deficiencies, has marked the revival of Christian philosophy in French non-Catholic circles and merited the following tribute from the eminent Thomist, P. Sertillanges: "Bien des idoles gisent qui, sans M. Bergson, seraient peut-être debout, et bien des choses fleurissent—en particulier l'heureux retour d'un âge métaphysique—qui, sans lui, seraient encore attendues. Tout ce qui est métaphysique tend à être religieux, surtout quand la métaphysique est à base psychologique. . . . Au point où nous en sommes, et vu le *tout ou rien* qui hante la masse des intelligences, ne

plus croire au déterminisme, au monisme, au matérialisme, et accepter d'autre part la métaphysique, c'est croire en Dieu, et quand on croit en Dieu, on n'est pas loin d'être chrétien." The theistic orientation of Bergson's philosophy has been stressed by two of his Catholic disciples, Edouard Le Roy and Jacques Chevalier, and the correctness of their interpretation has been accepted by Bergson himself in a letter to P. de Tonquédec, June 12, 1911, and at the meeting of the International Congress of Philosophy held at Oxford in 1920. The following are the words in which he characterizes the results he is confident of having attained: "Les considérations exposées dans mon *Essai sur les Données immédiates de la Conscience* aboutissent à mettre en lumière le fait de la liberté; celles de *Matière et Mémoire* font toucher du doigt, je l'espère, la réalité de l'esprit; celles de *L'Evolution Créatrice* présentent la création comme un fait: de tout cela se dégage l'idée d'un Dieu créateur et libre, générateur à la fois de la matière et de la vie, et dont l'effort de création se continue, du côté de la vie par l'évolution des espèces et par la constitution des personnalités humaines. De tout cela se dégage, par conséquent, la réfutation du Monisme et du Panthéisme en général."

Still Bergson has not yet, at least in any of his published works, touched directly on the problem of God and he once thus explained his reason: his method, which rigorously follows experience, has not allowed him to anticipate a conclusion which would go beyond the empirical data upon which it should rest: to deal with the existence and nature of God is impossible until one has examined the moral problem.[1]

In the intention of its author Bergson's philosophy is not only a reaction against associationism, determinism and materialistic monism, it is the antithesis of idealism in its Kantian and Hegelian forms: "Toute la philosophie que j'expose," he wrote to Chevalier in 1920, "affirme contre Kant la possibilité d'une intuition suprasensible." The

[1] This statement was made in 1912. It is rumored that the task Bergson then envisaged has been accomplished and his friends are awaiting the publication of the theodicy which would crown his monumental work and might correct its deficiencies. We may be permitted to add here the concluding words of the letter of submission of E. Le Roy after the decree condemning his philosophical works: "Je crois-au sens même de l'Eglise—à la possibilité d'une démonstration objective de l'existence de Dieu, à la distinction entre le Créateur et la créature, à création de l'homme en général, et spécialement de l'âme par Dieu, à la valeur objective de la connaissance humaine." (*La Croix*, 16, Jan. 1932.)

possibility of metaphysics needs no demonstration: the apprehension of the real, the rational intuition of an absolute beyond the phenomenon are facts of experience.

This brief sketch shows how close Bergson comes to the essential positions of Scholastic philosophy and accounts for the favor with which his works were received as they appeared at long intervals, the *Essai* in 1889, *Matière et Mémoire* in 1896, *L'Evolution Créatrice* in 1907, and *L'Energie Spirituelle* in 1920. JOLIVET, therefore, addresses himself to the task of determining the grounds of the opposition to Bergsonism among Catholic thinkers which culminated in the condemnation of his works by the Church. He examines in turn the Bergsonian solution of the three capital problems of knowledge, of freedom, and of God.

Every reader of Bergson is familiar with the distinction he makes between intelligence and intuition and with the discredit he throws on intelligence, which he denounces as a purely utilitarian faculty, incapable of grasping the real in its continuity and mobility. Over and above intelligence he sets intuition, which alone can seize the real and grasp life and spirit in their unity and in their movement. If he can be rightly called anti-intellectualist, it is not however in the agnostic sense of the term, as though the human mind were utterly devoid of any apprehension of the object of science and of philosophy; it is rather because he credits the mind with a "supra-intellectual" faculty, intuition, to which he ascribes the task of supplementing our purely conceptual representations of the real.

Underlying this bold theory and offered as its justification, we find a metaphysical view of reality, the very substance of which is conceived as pure becoming. "Il y a des changements, mais il n'y a pas de choses qui changent: le changement n'a pas besoin de support . . . le mouvement n'exige pas de mobile." This "becoming" is duration itself, or time "perceived as indivisible". This is the Heraclitean conception of the universe in which there is no room for abiding substances, for souls in the Scholastic sense of the word, and it is therefore open to all the difficulties we may direct against pure phenomenism. We need not conceive the soul or any substance as an inert changeless substratum, we need not ignore the fact that every finite being is constantly actualizing its potentialities, to affirm that every finite reality is marked with an inner dualism, of substance and accidents, of an abiding element which retains its identity under the flow of phenomena.

Science itself in which Bergson seeks a confirmation of the world view as a pure succession of phenomena seems to have rediscovered the concept of thing. "Le réel," writes the physicist Louis de Broglie, "ne peut s'interpréter à l'aide de la pure continuité; il faut dans son sein discerner des individualités." Life particularly cannot be interpreted as pure activity; it presupposes organisms possessed of real individuality, dependent upon, but distinct from their environment; in other words we never find life as such, we find living beings or substances.

Inasmuch as Bergson presents intuition as the only faculty that would be capable of perceiving pure movement while intelligence would be busy parcelling out reality into things, it is clear that if its object is imaginary it becomes, to say the least, unnecessary. But does intelligence deserve the discredit Bergson throws upon it? Were its function purely utilitarian, were it merely an instrument of action, the practical applications of science would show us how precious it is. But it is long since we have learned from Aristotle to distinguish between "theory" and "practice" and to appreciate the disinterested pursuit of knowledge for the sake of knowledge; the man of science knows the joy of knowing and St. Thomas makes the beatific vision the essence of the happiness of heaven. The concept itself, the fruit of abstraction, is modeled after reality in which we detect discontinuity as well as continuity, universal aspects as well as individual characteristics. It has indeed to be supplemented by experience, either consciousness or sense perception, which alone can perceive the singular and the concrete; but though conceptual representation is not the whole of knowledge, though real assent is at times to be set above notional assent, yet both conceptual representation and notional assent have their part to play in our thought; both are true knowledge.

Moreover, is it possible to go beyond intelligence, is it even desirable? Some take the Bergsonian hope of a perfect identification between the knowing subject and its object to be a chimerical dream. The Scholastic definition of knowledge as the "adaequatio intellectus et rei" must be understood in the logical and not in the ontological sense. And though one may grant that the intellect in its concepts represents the abstract essence rather than the concrete individual, the universal law rather than the flow of natural events, still one may ask whether the changing aspects of things are more worthy of our attention than the things themselves? In fact Bergson, for whom intuition is practi-

cally sense intuition, at the very moment that he invites us to go beyond intelligence, lowers man's knowledge to the level of animal perception.

Still, in spite of its serious defects, Bergson's criticism of intelligence remains as a decisive refutation of associationism which had denied the continuity of consciousness and made the ego and therefore all reality a mere series of unrelated phenomena. It reminds us also that analysis does not exhaust the task of intelligence which must aim at grasping the real not only in its nature but also in its relations, and the universe not only in its divisions but as a whole. But such is, in the teaching of St. Thomas, the rôle of *intellectus*.

Bergson's treatment of the problem of freedom gives the same impression of a vigorous affirmation of a capital truth that is weakened unfortunately by his peculiar interpretation of that truth. Against both physical and psychological determinism he appeals to experience. "Freedom," he says, "is a fact, and among the facts that we observe there is none clearer." But freedom is not easy to define. It is "the relation of the concrete self to the act which it performs" and "this relation is undefinable just because we *are* free." "It is the whole soul which gives rise to the free decision." And "if it is agreed to call every act free which springs from the self and from the self alone, the act which bears the mark of our personality is truly free, for our self alone will lay claim to its paternity." Hence freedom is rather a matter of experience than of logical demonstration.

If Bergson refuses to define freedom, his conception is none the less clear enough and we commend the valuable criticism of this conception which JOLIVET adds as an appendix to his lectures. Two main objections are raised against it. In the first place, while we may approve of Bergson's denunciation of the artificiality of the analysis of the free act by associationists (who have found among our own too many imitators) into distinct and successive phases: deliberation, choice and execution, yet he goes too far when he taxes as mere illusion the part of deliberation; he simply overlooks the essential element of the free act which is rationality. In the words of Maritain: "M. Bergson a traité le problème de la liberté au point de vue des associationistes et des phénomenistes. Sa critique porte sans doute contre les imaginations de ces philosophes, qui se représentaient les motifs comme des machines volantes venant se poser sur nous et peser sur notre vouloir. Mais il oublie comme eux que la causalité psychologique, véritable rayonnement de la substance de l'âme, est dans les facultés ou puis-

sances de l'âme, non dans les phénomènes, et que c'est en raison des puissances (non des phénomenes), de la volonté et de l'intelligence (non des 'motifs' et des états de conscience), que le problème doit être posé."

If this interpretation of freedom which we find in the first *Essai* seems to be corrected in the later work, *Matter and Memory,* Bergson falls there into the still greater error of denying entirely the part of motives in the making of a choice and therefore of assimilating freedom to pure indetermination or pure contingency, very much as Eddington does in his *Nature of the Physical World.* Bergson no doubt admits there the presence of intellectual elements in the free act, but he does not conceive reason as the faculty of judging and of directing the will; he describes it as obeying the movement of the will, and for him ideas and feelings are not the source or the germ, but the fruit, of the free act. Hence, the irrationality of our decisions and the absolute indeterminism of the will. Bergson's triumphant charge against determinism ends in robbing free will of its essential characteristic, *viz.* rationality.

This tragic failure which jeopardizes the very cause which it seeks to defend is repeated in Bergson's treatment of the problem of God. Though he has never—even in *Creative Evolution*—touched directly on the problem of God, Bergson is confident he has refuted monism and pantheism and paved the way for the affirmation of God "créateur et libre, générateur à la fois de la matière et de la vie."

Many pages of *Creative Evolution* are devoted to a refutation of the mechanistic interpretation of the universe and to the Aristotelian concept of God as "Primum movens immobile" on the ground that neither admits of any real becoming or duration. Not even in Spencer's evolution does Bergson find genuine duration: "In such a doctrine we still talk of time, we pronounce the word, but we hardly think of the thing; for time is here robbed of all effect." As for the philosophy of Forms and Ideas, what we call the Divine Exemplarism, it is also rejected as being based on the ancient axiom that there is more in the motionless than in the moving, while, in Bergson's mind "there is more in a movement than in the successive positions attributed to the moving object, more in a becoming than in the forms passed through in turn, more in the evolution of forms than in the forms assumed one after another."

Space does not permit us more than a bare outline of the picture

of the universe offered us by Bergson of the twofold movement of the ascent of life and of the descent of matter. Matter is energy expended, movement dissipated, constructions breaking up, weight falling, levels becoming equalized and differences effaced: in one word a fall and a loss. "Life", on the contrary, "from the initial impulsion that thrust it into the world, will appear as a wave which rises, and which is opposed by the descending movement of matter. On the greater part of its surface, at different heights, the current is converted by matter into a vortex. At one point alone it passes freely, dragging with it the obstacle which will weigh on its progress but will not stop it. At this point is humanity. . . . As the smallest grain of dust is bound up with our entire solar system, drawn along with it in that undivided movement which is materiality itself, so all organized beings from the humblest to the highest, from the first origin of life to the time in which we are, and in all places as in all times, do but evidence a single impulsion, the inverse of the movement of matter." "A reality which is making itself in a reality which is unmaking itself" and that reality itself a pure becoming, for "everything is obscure in the idea of creation if we think of things which are created and a thing which creates . . . there are no things, there are only actions." "God thus defined, has nothing of the already made: He is unceasing life, action, freedom. Creation, so conceived, is not a mystery; we experience it in ourselves when we act freely."

If words have a meaning, it is hard to see how Bergson's philosophy, in spite of its author's protests, can escape the charge of pantheism and monism. If the creative power is immanent in becoming, is becoming itself which Bergson defines as the very substance of all reality, the movement which "constitutes the unity of the organized world—a prolific unity, of an infinite richness, superior to any that the intellect could dream of, for the intellect is only one of its aspects or products", what becomes of the essential distinction between creatures and their creator? In this as in every pantheistic system we find God endowed with the attributes of the finite: change, progress, contingency; and on the other hand we have the finite, the contingent in the absurd condition of self-making, self-creating.

Bergson and after him Le Roy may insist that monism is alien to their thought, but the language they use is bound to suggest if not a static identity between God and the world, at any rate no other distinction than such as may be seen between the spring and the rivulets which issue from it. If God be merely "the centre from which worlds

shoot out like rockets in a fire-works display", if life proceeds "like a shell, which suddenly bursts into fragments, which fragments, being themselves shells, burst in their turn into fragments destined to burst again, and so on", we fail to see any essential distinction between God and the world. And in such a system there is no room for real divine freedom; for Bergson free creation does not mean a sovereign act of the divine will calling to existence the whole finite world but the irresistible evolution of the primordial tendency in variable and indeterminable directions. Consequently no Providence is implied to determine the phases and direct the course of that evolution, and in the last analysis we have no rational explanation of the universe. Some go even further and read a latent Manicheism in that picture of the struggle of life, freedom and spirit against death, necessity and matter.

Such was not, we have seen, the mind of Bergson; but the logical consequences of a doctrine do not always conform with its author's intentions. Descartes' spiritualism paved the way for materialism; Kant's attempt to refute Hume ushered in a century of idealism. The root of the errors which we find implied in Bergson's whole system is his reduction of all reality to pure change and pure duration and his attribution to pure duration of a creative power. In such a world there is no need of a personal creator and God is merely the name we give to becoming which alone possesses the divine attributes of a deity, infinity and creative activity.

Professor JOLIVET'S *Essai sur le Bergsonisme* may be taken as a valuable introduction to, and a safe guide in the interpretation of the New Philosophy. His readiness to approve and to hold fast that which is good in a doctrine which is admirable in many ways and which has exercised such a good influence, will only give more weight to his temperate but strong criticism of it. This will be our excuse for having analyzed at such length this very short volume. *Multum in parvo.*

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God in Greek Philosophy to the Time of Thales. By ROY KENNETH HACK. Princeton: Princeton University Press, 1931. Pp. vii + 157.

If it is assumed with the great historians of the nineteenth century that Thales in particular and Ionian civilization in general had lost

faith in traditional religious belief and had turned to science and philosophy, many persistent and important problems are left unsolved. It becomes necessary to account, from an historical point of view, for the stimulus that induced the scientific outlook. It is also necessary to explain the difference between rational thought uttered in poetical form (found in Homer and in Hesiod) and that found in the writings of the philosophers. On these points the experts have had nothing to say except to protest that rational science could not have been derived from religion. Over night Thales is supposed to have become possessed of rational insight which allowed him to grasp for the first time the notion of uniform regularity in nature, and Greek thought started out on a skeptical career that was to end in the materialism of the Atomists. This procedure not only ignores the continuity of Greek speculation concerning a supreme being and its relation to the universe but finds itself at loss to give any certain meaning to the word 'god' wherever it occurs in its various contexts. Scoon, for example, tells us that although the early Greek philosophers still made use of the old terms 'god' and 'divinity', they really meant a new set of scientific categories. Worse than this, much important evidence of a decidedly theological nature has to be rejected altogether. Professor HACK remarks that if the Ionians were primarily intent upon founding natural science, the first chapter in the history of philosophy becomes the first chapter in the history of science—"a strange and hostile prelude to the profoundly religious systems of Plato, Zeno, and Epicurus." (p. 2)

In opposition to the school of Burnet, Professor HACK maintains that the religious convictions of the early Greeks supplied the impulse which brought science and philosophy into being. From the time of Thales on, Greek speculation may be considered as a continuous effort to arrive at an understanding of the nature of the supreme divine being and its relation to the universe. During its whole course Greek thought was primarily theological and metaphysical and except for occasional obscurity here and there, especially among the Pythagoreans, it may be looked upon as a unit. Science, ethics and epistemology are only by-products of a major interest; they only appeared as distinct tendencies when early Greek thinkers had arrived at a considerable stage in the rationalization of their beliefs concerning God.

This book is bold and original and although the author sets out to give merely a sketch of Greek thought about God, not only his main

thesis but also many of his conclusions stand in violent opposition to the views of most of the best professionals. It is sure to raise a storm of comment and no small amount of protest; those who disagree must be prepared for a close discussion relevant to interpretations of texts. Perhaps this is the reason why the book is so small. The whole case stands or falls on the answers to the questions whether Ionian civilization had become utterly secular and whether the term 'god' had acquired a non-religious meaning. Accordingly the book opens with an inquiry as to what the educated Greek of the sixth century thought about the gods. The author considers the literary evidence afforded by Homer and Hesiod alone as of any importance. He finds that from earliest times there existed the belief that power was God and was divine. In Homer the word 'god' is often used in an impersonal sense to refer to the power of an unnamed non-anthropomorphic god or daimon ("*moira*" and "*aisa*", fate or destiny). (p. 8) Moreover, Homer attributes to this impersonal God "the whole sum of divine power." It seems fairly obvious that Homer's belief in a supreme causality was philosophical, at least in an adjectival sense. Throughout the whole history of pre-Socratic philosophy Necessity was conceived as being identical with the supreme power or God. This is an interesting and unusual view and should lead to important consequences in Plato and Aristotle if it is justified.

Here follows an attempt to distinguish the hierarchy of inferior anthropomorphic gods in their relation and dependence upon a supreme power in which the Greeks never lost faith. By the time of Thales a few educated Greeks had become skeptical concerning the anthropomorphic gods but there is no evidence to prove that men had lost faith in the traditional non-human gods. Thales was quite in line with traditional belief when he subsumed all the divine powers under the notion of a "living divine universe". For Thales the supreme God and the cosmogenetic god were one, the author is certain that he was not talking about a 'material' cause as modern scholars have led us to believe.

In the seven succeeding chapters the author traces the development of the doctrine of a supreme being away from the belief in a divine substance toward the notion of pure causality. He insists that the starting-point in the case of each philosopher is primarily theological and metaphysical and with each one the supreme God ascends in the scale of perfection. It is impossible to give even a sketch of the novel conclusions found in these chapters. It should be evident from what

has been said that the author's starting-point puts an entirely different complexion on almost every aspect of pre-Socratic thought. Professor HACK'S opposition to Burnet and more especially to the secondary authorities is not one of mere minor detail but one of fundamental importance. If you agree with the major theme which runs through the whole book, the works of Burnet and of his followers remain valuable as references. In order to give the prospective reader some idea of how utterly this book discredits its predecessors it will be quite sufficient to give a bare outline of what is said concerning the Atomists.

Leucippus sets out to enhance the perfection of the Parmenidean God which is One immutable incorporeal Form full of Thought and Being, unrelated to the changing universe except as its cause. He thought it would improve his master's notion of God to endow it with motion and with an infinite number of forms each one absolutely full of Being and possessing all the attributes of his master's One Being except its Form. Each form is indivisible and incorporeal and possesses causal powers which cannot be exercised apart from other forms. These indivisible forms have no sensible qualities but are the cause of all qualities and all bodies. But there could be no motion without a void: hence he asserts that the void is non-being. Among the forms are to be found spherical forms which the Atomists identify with Mind, Psyche and God. The supreme being, then, may be considered as a hierarchy of divine forms full of divine being, the cause of all things, infinite and having all perfections, but the name of God is reserved for the highest forms—the spherical forms, which are Divine Reason. Professor HACK'S atomists are neither materialists nor mechanists, the two absolute realities found in their doctrines, being and the void are both metaphysical. Surely this is a complete *bouleversement*.

Philosophers in every age have shown a predilection for heaping violent abuse upon their predecessors in order to throw a more favorable light upon their own doctrines. Professor HACK thinks that in spite of his genius, Aristotle was not above this sort of thing; but his sin was all the more pernicious because of his immense influence. Aristotle described the *atomoi ousiai* of the atomists as "indivisible bodies and magnitudes", he also said that the "forms and the void resemble material causes." He accused the atomists of being materialists. Undoubtedly Aristotle has been the father of much confusion in the history of Greek philosophy but we have added to it by chopping up the universe of the ancients with modern abstractions which have no application. It is not easy to say just what Aristotle meant when he

described the atomists as materialists. The crucial test of Professor HACK's whole thesis will come when he rounds it out to include Plato and Aristotle. In the tenth book of the *Laws,* Plato indicates that atheism as an opinion arose from the corporealism of the Ionians who account for the order of nature on purely mechanical principles. This statement of Plato stands in direct contradiction to the main theme of the book. In conclusion, let it be said that this book shows a healthy reaction against the ultra-modernism which has infected almost everything but our prayer books.

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The Logic of Discovery. By R. D. CARMICHAEL. Chicago: Open Court Publishing Co., 1931. Pp. 280.

General Logic (An Introductory Survey). By RALPH M. EATON. New York: Charles Scribner's Sons, 1931. Pp. 630.

The first of the above-named books is a collection of previously published articles and as such lacks the unity which should ordinarily be the result in a work of this kind. The title of the first essay becomes the name for the whole, chiefly for the reason that it is placed first. Nevertheless, there is a central intention, and that well achieved, to convey to the non-mathematical students of logic the importance and general value of that very large body of modern logic which is closely connected with mathematics—something of a popularization of the facts of a most difficult field. As such, it may be particularly recommended to Scholastic logicians as an introduction to a newer phase of their science which, of necessity, they must investigate. Mr. CARMICHAEL is, of course, here concerned with the connection between the ordinary inductive or hypothesis method and mathematics where the relation might not be so readily appreciated, as would be the case in pure science. In the latter it is quite possible to advance propositions which are really assumptions made to permit the movement of thought in particularly difficult phases. Thereafter, it would be necessary to make a check-up in the external world. One might also make certain changes in the assumptions and see whether perhaps the subsequent development in the light of those changes might not be more in accord with the facts. Then, too, it would be possible to divest the development of its spatial interpretations and arrive at what has been called a purely 'doctrinal function', which could be used in non-spatial data as well.

It is this latter possibility that suggests what might be a considerable service to the mind in its 'logic of discovery'. Here the problem is to organize our body of experimental data. We are also desirous of new facts, many of which are by no means easily wrung from nature. Now, suppose a system of postulates from the known facts and then carry out the deductions from them. Here we have an aid in knowing we might look for the facts to verify our purely mathematical deductions. The author particularly emphasizes the possibilities in the social sciences where, of course, a beginning has been made, but not in any thoroughgoing manner. One could very much wish that Mr. CARMICHAEL had greatly extended this part of his discussion. Granting also the possibilities of the proposed program, one can likewise see how easily the nicely developed postulates might tend to pre-determine the facts. But, of course, that is a danger of any form of hypothesis method and in no sense peculiar to it when used in conjunction with the doctrinal function of mathematics. The author, at least, has most interestingly stated the problem and that is surely a first step in its solution.

Professor EATON has done a particularly fine piece of work in his introductory survey of the whole field of logic, as it now stands in the light of modern developments. This reviewer thinks that the author's objective, "to show the unity of the classical Aristotelian tradition with contemporary mathematical logic" has been very happily achieved. The whole makes a large work for an introduction to a subject which, without the newer mathematical considerations, had already become a vast field. One wonders how, with the latest addition, the introduction can be accomplished in the short space of one year. But perhaps logicians might now be so bold as to ask the college curriculum makers why that should be necessary if it may be said that the major task of a college course is to teach the student how to use the instruments of thought in order that he may, humanly speaking, save his own intellectual soul. By now we must have realized that it is quite impossible to tell him what he is to think completely for the rest of his days. Professor EATON has in no way minimized the importance of the past in his equal insistence upon what the present has added. He has simply put the beginner in possession of a real understanding of both contributions in what, with great exactness, must be called 'general logic'.

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Alfonsus Vargas Toletanus und seine theologische Einleitungslehre. Ein Beitrag zur Geschichte der Scholastik im 14. Jahrhundert. By JOSEF KUERZINGER (Beitraege zur Geschichte der Philosophie und Theologie des Mittelalters, herausgegeben von Martin Grabmann, Band XXII, Heft 5-6). Muenster: Aschendorff, 1930. (XVI, 230 S).

This is a study of interest to the historian of theology. Alfonsus was, according to the author of this monograph, a great intellectual leader neither in the fourteenth century nor even among the theologians of his own Order. A speculative mind, a conscientious worker he undoubtedly was, but his speculations and dialectics were as barren as speculation and dialectics usually are. Yet this study is useful because his writings reveal a maze of opinions, arguments, and questions which disturbed the theologians of the fourteenth century. One gets an insight into a mentality absorbed by speculative interests that center around theoretical questions engendered by the knowledge of Aristotle, much as we are occupied in showing that the finds of true science in no way stand in the path of orthodox theology. Alfonsus is in the fray of his times, but he makes no original contribution to the solution of its difficulties. Of the school of Aegidius of Rome, he is yet an electic. This seems to be the most interesting thing about him.

This study by KUERZINGER of the *Prologus of the Commentary of Alfonsus* is well done, as might be expected of a pupil of Grabmann. It is an original study, the first of its kind of one of the better known, but not all too important theologians of decadent Scholasticism. It is another ray of light shed upon a period of history in which the Scholastics are genuinely interested.

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Das Problem der Wahrheitssicherung bei Thomas von Aquin. Ein Beitrag zur Geschichte des Evidenzproblems. By PAUL WILPERT. (Beitraege zur Geschichte der Philosophie und Theologie des Mittelalters, hersg. von Martin Grabmann. Band 30. Heft 3.) Muenster: Aschendorff, 1931. (XIV, 314 S.)

The present study is a realization of a wish expressed by Grabmann that the criteriology of St. Thomas be studied in all its elements with

special reference to the pertinent texts in the works of St. Thomas. The study is historical, critical, and systematic. It is not the first study of its kind, but as long as there exists doubt as to the genuine thought of Aquinas, which is heavily overlaid with personal views of the interpreters in the long Scholastic tradition, such studies will have to continue to be made. It is the spirit of Neo-Scholasticism that drives through Ferrara, Cajetan, Suarez and others down to Thomas Aquinas, just as he had to discover Aristotle through the distortions introduced by the Arab and Latin translations. Our plight is aggravated by text books that are faithful, all too faithful, reproductions of other text books compiled by men known more for their conservatism than critical ability. When two views evidently clash there is little profit in attempting to reconcile them. WILPERT critically examines and rejects what cannot withstand honest examination.

As is well known, and the author points to it in this study, we cannot expect to find any systematic treatise in the Middle Ages on questions that vex the modern mind. The Schoolmen took for granted what we, since Kant, try to establish critically, e. g., that we can know the objective world and a good many things regarding it. Yet it is abundantly clear that the Schoolmen thought very much on such problems and that they have offered very minute observations on the experimental side and some very ingenious theories which to this day have not been superseded. WILPERT undertakes to establish what precisely were the views of St. Thomas as revealed in the authentic texts of Aquinas.

His primary concern is to establish the view of Thomas on the 'Foundations of Certitude'. He promises a study on the Concept of Truth, truth as an essential attribute of cognition, on the Concept of Truth in Pre-Thomistic Philosophy, on Ontological Truth, then on Judgment as the Bearer of Logical Truth, and finally on Judgment. This preliminary work is necessary, because there is not unanimity among Scholastics as to the interpretation of 'Adaequatio inter rem et intellectum'. De Ferrara's opinion that truth is 'inchoative', 'imperfecte' in simple apprehension or in the concept finds no support in the philosophy of St. Thomas. Truth is of the judgment, and of the judgment only. (p. 41) WILPERT also rejects the interpretation of Sentroul (Louvain) of *adaequatio* which results in his definition of truth *à quatre termes,* and according to which truth is the correspondence between logical and ontological truth. While this interpretation fits many otherwise difficult texts of St. Thomas he finds that Sentroul

stresses unduly the *adaequatio* and rejects it on the predication of the *Summa: esse rei, non veritas rei, causat veritatem intellectus.* (p. 46) While the judgment is composed of subject and predicate and a copula, it is in the copula that the judgment formally consists, for in the copula the reference takes place between subject and predicate. The reference is the *cognoscere et dicere verum.* The author promises a more detailed and better documented study on this point which is to appear in the near future. WILPERT is interested only in establishing the true thought of Aquinas.

The author then studies in the same thorough manner the problem of certitude and the meaning and possibility of evidence. The greater part of the study is devoted to a classification of evident cognitions, *viz.*, the mediate evidence in science, empirical evidence, and the apriori evidence of principles. 'Evidence' as used by Thomas has not as yet the full precision of a technical term.

We have found nothing new in this part of the study, but the critical spirit is everywhere in evidence, the spirit that sacrifices nothing that is valuable and dares to give up what is false or defective.

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Vital Realities. By CARL SCHMITT, NICHOLAS BERDYAEV, and MICHAEL DE LA BEDOYÈRE. New York: The Macmillan Co., 1932. Pp. 273.

The third volume of the series of Essays in Order, *Vital Realities,* contains an essay entitled "The Necessity of Politics" by CARL SCHMITT, another on "The Drift of Democracy" by MICHAEL DE LA BEDOYÈRE, and two essays on the Russian revolution by NICHOLAS BERDYAEV. All of these essays are interesting and stimulating. They are seriously, even largely, conceived and well executed. It is to be hoped that the general editors of Essays in Order will be able to continue their series on the high standard set by this and previous volumes.

In his essay Mr. SCHMITT is concerned with the Church's character as a *complexio oppositorum,* as a synthesis of seeming contradictions, and with that representative and political element always possessed by the Church and frequently so productive of distrust and misapprehension in those who do not understand it. The subject is too large for effective condensation and Mr. SCHMITT'S essay suffers from this handicap. It is, however, of genuine value, particularly for readers—

and they are many—who are unfamiliar with the concept of the Church as the synthesis of all antitheses.

Mr. DE LA BEDOYÈRE'S observations on the drift of democracy are just, dispassionate and penetrating. They are not original or novel, but they have no need for such qualities. They state many things that need to be stated many times and that gain in force and truth with each restatement. One such truth is that today, in spite of its growth, the Church does not count with the men and women who seem to be those who will determine the course of our civilization in the immediate future.

Mr. BERDYAEV'S two essays on the Russian revolution cannot be recommended too highly to anyone who wishes to understand the present regime in Russia. At present living in Paris, Mr. BERDYAEV is a distinguished Russian thinker who possesses the distinction of having been persecuted by both Imperial and Soviet Russia. In spite of this, there is no rancor in his appraisal of both the old and the new Russia. The first of the essays is entitled "Russian Religious Psychology and Communistic Atheism." It stresses the essentially "Messianic" spirit of the Russian people and shows how this spirit now manifests itself in a dream of world-redemption by world-revolution. Hence communism in Russia today draws its tremendous strength and vitality not so much from itself as from the Russian people. The author sums up the case in the following terms: "And the basic phenomenon which we have to notice is that we have here a transposition of religious motives and religious psychology into a non-religious or anti-religious sphere, into the region of social problems, so that the spiritual energy of religion flows into social channels, which thereby take on a religious character, and become a breeding-ground for a peculiar form of social idolatry." (p. 112)

Mr. BERDYAEV'S essays are not only analytic and expository; they indicate the only positive and constructive answer to the challenge of communism. The Russian revolution was inevitable because of the corruption of the old regime. To displace those now in power in Russia is a task that is beyond mere political expedients or any half-hearted or compromising measures. "The only thing to pit against integral Communism, materialistic Communism, is integral Christianity: not rhetorical, tattered, decadent Christianity, but renascent Christianity, working out its eternal truth towards consistent life, consistent culture, consistent social justice." (p. 186)

It is difficult to refrain from quoting Mr. BERDYAEV'S essays at greater length. They constitute a profound and authoritative expression of the meaning, causes and possibilities of the most tremendous and potent change in modern history. Reflexly, they enable us to see and appreciate certain facts in our own milieu that are charged with the possibilities of disastrous change.

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Saint Augustine: His Philosophy. By ANGEL C. VEGA (Authorized translation from the Spanish by DENIS J. KAVANAUGH). Philadelphia: The Peter Reilly Company, 1931.

The present work is divided into four chapters, together with prefaces by the author and the translator and an introduction entitled "The Tribute of the Ages to St. Augustine." Not only in this introduction but also throughout the body of the work, many quotations from both ancient and modern writers on St. Augustine's life and work are given. These quotations indicate a familiarity on the part of Father VEGA with the whole vast range of Augustinian studies. The author's own words indicate independence of judgment, a deep and wide knowledge of the huge body of St. Augustine's work and a clear and sympathetic reading of his mind. *Saint Augustine: His Philosophy* will prove a valuable addition to our constantly increasing fund of Augustinian studies in English.

No historian of theology hesitates to assign to St. Augustine one of the seats of the mighty, and the same holds true of all historians of philosophy. His work can claim the title of "epoch-making" as can the work of few other philosophers. In metaphysics, epistemology, theodicy, cosmology and psychology, he dominated the mind of his own time and influenced the thought of centuries to come. Indeed, it is hardly too much to say that Augustinianism, being a fusion of Platonism and revelation, is one of the ultimates in philosophy. Certainly, it makes itself increasingly felt in our own time.

To this philosophy of St. Augustine Father VEGA assigns a threefold value, characteristic, systematic and actual. Its characteristic value lies in its essential nature as "the first relatively complete specimen of Christian philosophy." It is based, of course, on Divine revelation; it uses the fragmentary achievements of the earlier apologetes; it seizes upon and develops the truth that Plato had found. Yet it is

no mere syncretic eclecticism: it is informed by a profound originality and by an idea that at once dominates and synthesizes, and it is concerned with new problems. Chief among these is the problem of the relation of faith and reason. The problem is possessed today of an importance as great or greater than in St. Augustine's day, and his treatment does not lose its meaning with the passage of the centuries.

The systematic value of St. Augustine's philosophy is found in his doctrine of truth. Father VEGA will not agree with those who hold that St. Augustine's work is lacking in system and coherence. He contends, and with justice, that it is wrong to attempt to interpret a fifth century writer exclusively in terms of twentieth century criticism. Morevover, much of the charge of lack of system is due to the fact that St. Augustine underwent a long and intense intellectual development and that his style and method are little like those we expect to find in the cautious systematizer. Yet system St. Augustine's work does possess. It is the system that comes inevitably from his basic and all-pervading doctrine of truth.

The actual value of St. Augustine's philosophy is its appeal and importance to us of today. Both in character and accomplishment St. Augustine may be called a modern. He was modern in his impassioned quest for truth, in his independent spirit and critical method, in his insistence on the introspective method, in his doctrine of the Absolute and his perception of the mysterious. In these four features of St. Augustine's mind with their resultant achievements, Father VEGA rightly finds meaning and importance for the modern world. It is in his discussion of this part of his subject that the author is at his best.

It is to be regretted that more of *Saint Augustine: His Philosophy* is not positive and constructive in character. "The Tribute of the Ages", for instance, might well be taken for granted. So also it would have been better if a large part of the innumerable quotations, both favorable and unfavorable with regard to St. Augustine, scattered throughout the work had been eliminated. Their place could have been given over to a discussion of other parts of St. Augustine's work or to a more extended treatment of the parts considered.

Realizing the difficulties of translating a philosophical work from any language, and particularly from Spanish, into English, one does not hesitate to praise Father KAVANAUGH'S translation of the present work. Due allowance must be made for certain floridities that are Spanish rather than English. So also one may charge the author

rather than the translator with the incessant use of sobriquets. St. Augustine is variously referred to as "our Saint", "our Holy Doctor", "the Doctor of Hippo" and "the great Patristic." However, such things are an evidence of fidelity, a virtue not out of place in a translator.

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An Introduction to Living Philosophy. By D. S. ROBINSON. New York: Thomas Y. Crowell Co., 1932. Pp. xiv + 381.

Belonging to the large and growing class of introductory books in philosophy, Professor ROBINSON'S work is further specified as to nature by its sub-title, "A General Introduction to Contemporary Types and Problems." Its province is large and varied, and to the college student, for whom this work is written, it is an unknown land. A guide-book to this province must possess qualities of simplicity and lucidity, together with an expression of what is obscure and unfamiliar in terms that are fresh and appealing. Professor ROBINSON'S book is marked by such things. It is not too much to say that even the mature and specialized student will find that this work is of value not only as a general introduction to present-day thought but also as a general and comprehensive view of its field.

An Introduction to Living Philosophy is divided into five parts. The first is entitled "Orientation" and includes chapters on the philosophy of the plain man, on why we philosophize, on method and on the principal branches, problems and types of philosophy. The second, third and fourth parts deal with idealism, realism and pragmatism in turn. Each of these parts is an explanation of the general nature of the philosophy under discussion, its merits and defects, its history and its present status. To pragmatism is given 80 pages out of a total of less than 400. While this need not be taken as an indication of the author's view of the inherent value of pragmatism and its past and present importance, it may be regretted that some of these pages were not devoted to more permanent and significant ways of thinking.

The fifth part bears the general heading "Other Types" and includes chapters on various types of philosophy, all of which may be referred to realism, idealism or pragmatism. To the spiritual realists, whose "philosophy is often called The New Thomism", almost a page is given. It is tedious and irritating to repeat that a living philosophy having

far more adherents than any other philosophy of the present or past deserves and demands a more dignified treatment than this. Is it too much to ask that any introduction to philosophy give at least an outline of the principal doctrines of the Neo-Scholastic synthesis? If it is no longer fashionable to dismiss the philosophy of the Middle Ages as of no importance, perhaps one may hope for the disappearance of current obscurantism concerning a philosophy living, yet ancient and honored, that touches and molds the minds and lives of untold thousands of modern men and women.

Despite certain not unexpected and almost inevitable defects, *An Introduction to Living Philosophy* serves the purpose and attains the end for which it was written. It is to be recommended as giving a good general survey of the field of present-day philosophy, as putting this survey in clear and attractive form, and as bringing difficult and important problems within the grasp of today's college students.

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CURRENT PHILOSOPHICAL REVIEWS AND BOOK NOTES

The Journal of Philosophy—Vol. XXVIII, No. 26: December 17, 1931.

Oliver L. Reiser: Biological Relativity. Under five different captions, the author touches on Psychic Regression and Biology, Heredity and Biological Memory, Structure and Function, Biological Relativity and Relativity in Logic. **A. Ushenko:** On the Meaning of a Proposition. A consideration of the main point of Mr. F. C. S. Schiller's criticism in connection with the summaries of modern logic by Mr. Eaton and Miss Stebbing.

The Journal of Philosophy—Vol. XXIX, No. 1: January 7, 1932.

Sidney Hook: Reason and Nature. The fundamental questions found in Professor Cohen's *Reason and Nature* are discussed.

The Journal of Philosophy—Vol. XXIX, No. 2: January 21, 1932.

Abraham Edel: A Study of a Philosophy of the Determinate (I). In the first of a series of three articles inspired by a study of Aristotle, the author considers the situation. **Albert M. Dunham:** Animism and Materialism in Whitehead's Organic Philosophy. A consideration of the possibility of measurement, the problem of change and the theory of simultaneity.

The Journal of Philosophy—Vol. XXIX, No. 3: February 4, 1932.

Abraham Edel: A Study of a Philosophy of the Determinate (II). This is the second article on the Philosophy of the Determinate. It deals with potentiality of which he distinguishes three kinds.

The Journal of Philosophy—Vol. XXIX, No. 4: February 18, 1932.

Abraham Edel: A Study of the Philosophy of the Determinate (III). Structural analysis is considered in the last of a series of three articles by the author. Six types of concepts are enumerated. **Rudolph Kagey:** Report of the Thirty-first Annual Meeting of the Eastern Division of the American Philosophical Association. A summary of the meeting held at New Haven. The divergent papers read seem to mark the meeting as being one of little moment.

The Philosophical Review—Vol. XLI, No. 241: January, 1932.

Abel Rey: Philosophy in France, 1930. The author treats of several publications expressive of various trends stressing the point that the real signs of vitality in French thought are to be sought in periodicals and particularly in the bulletins of the learned societies devoted to philosophical and scientific research rather than in the books of the year. He discusses briefly M. Lalande's *Les illusions evolutionistes* and the conclusions of M. Le Roy's *La pensée intuitive*. Finally he lists some of the contributions made by the organizations. **Arthur Liebert:** Contemporary German Philosophy. Feeling that much of the history of philosophy is written in biographical form, Mr. Liebert reviews some of the best of the long list of such works which have

recently appeared in Germany. **H. R. Smart:** Discussion: Two New Logic Books. A discussion of the claims made in *General Logic* by Ralph M. Eaton and in *A Modern Introduction to Logic* by L. S. Stebbing.

The Monist—Vol. XLI, No. 4: October, 1931.

V. F. Lenzen: World Geometry. An attempt to classify the history of physical science by a division into mythological, quantitative and qualitative periods. An effort is made to point the way to a unified concept for all physical science. Relativistic physics has the as yet unrealized goal of geometrical physics. **Oliver L. Reiser:** Relativity and Reality. A vague incursion into the problem of reality. A multiplication of ethers is accepted; energy is the soul of matter. **E. T. Mitchell:** On the nature and analysis of causality. Cause and effect apply only to events. Between objects and events, the distinction is functional. The causal relation is triadic: every effect has two causal antecedents. The universe is not caused by anything, nor does it cause anything. **R. Lloyd Beck:** John Cook Wilson's Doctrine of the Universal. An examination of opinions contained in the late John Cook Wilson's volumes, *Statement and Inference* (Oxford, 1926). A study of knowledge and reality. Direct knowledge is certain; indirect knowledge is uncertain. Beck maintains that to abstract universals and concrete particulars we should add abstract particulars and the concrete, or concrescent universe. **Harold N. Lee:** The Meaning of the Notation of Mathematics and Logic. Logic is the study of interrelated forms. Symbolic Logic, especially that of Huntington and of Wittgenstein, is interpreted. **Otto Neurath:** Physicalism, the philosophy of the Viennese Circle. Under this title a revamped materialism, exuding from the Austrian decadence, is offered as a philosophy of negativism.

The Open Court—Vol. XLV, No. 905: October, 1931.

Bernard E. Meland: Toward a New Appreciation of Jesus. A reconstruction of the present view of Jesus is required by recent findings in historical scholarship. If it were possible to accept the tradition of the apostolic origin of the Gospels these books would be historically dependable because we should then have eyewitnesses relating a period of history in which they had actually participated. Recent findings show a striking similarity between the apocalyptic teaching of Jewish contemporaries and the teaching of Jesus, that Jesus had much in common with the Pharisees and that Jesus is not essentially different from the Jewish prophets.

The Open Court—Vol. XLV, No. 906: November, 1931.

Edward L. Schaub: The Philosophy of Hegel. This paper was prepared to commemorate the centenary of Hegel's death which centenary has marked a rebirth of interest in the doctrines of Hegel even in Germany where they have long been neglected. It is disputed whether Hegel's philosophy is a philosophy of passion or whether emotion is kept within proper bounds by critical reason. He himself asserted that his is an absolute philosophy which sets forth the final truth. Reason occupies the place of centrality. That reason may afford truth and that reason satisfied represents truth

attained are necessary assumptions of this philosophy. The dialectical method is the one valid and rationally required method of thought. **T. J. Thompson:** Mechanistic and Vitalistic Concepts of Life (A Chemist's View). The confidence of mechanistic philosophers should be severely shaken by the modern discoveries in physics and chemistry which seem to make nature less understandable than ever. The case against mechanism is increased by the inability of physical science to explain functional activities of living organisms. The author finds it difficult to see how one versed in modern science can arrive at the conclusion that the earth with its living things developed from bits of matter without a plan not accounted for by the mechanistic theory.

The International Journal of Ethics—Vol. XLII, No. 2: January, 1932.

T. V. Smith: Social Intelligence and the Communistic Experiment. Contrasts communism of today with capitalism, bringing out what lessons communism might learn from capitalism and what capitalism, could, in turn, learn with crucial profit from communism. **Howard O. Eaton:** The Content of Axiological Ethics. Examines in detail several recent systems of axiological ethics—those of Franz Brentano, Max Scheler, and Professor Nicolai Hartmann, each of which exemplifies to a marked degree some one of the conditions prerequisite for an axiological ethics, which conditions are also mentioned in this article. **Frenerick L. Schumann:** The Ethics and Politics of International Peace. If the goal of international peace still seems far from achievement, part of the explanation is doubtless to be found in the fact that those who deal with it as a political issue and those who are interested in it as an ethical problem are still largely strangers to one another, moving in different worlds and having little in common as to method or conclusions even in the pursuit of the same objective. It is proposed in the present article to sketch the two divergent orientations toward the problem which have been suggested, to indicate their limitations, and to attempt a restatement of the issue in the light of contemporary tendencies of thought in the social sciences. **L. P. Chambers:** Moral Freedom and Artistic Creativity. Man is either free or determined: if he be free, a science of human conduct is impossible; if he be determined, morality ceases to have any meaning. Is there any escape from this dilemma? And if not, shall we embrace science and discard morality as a false though sweet love; or shall we cling to our first love despite the claim of science that freedom is only an illusion? In this article will be found a treatment of these problems. **G. H. Robinson:** Adjusting National Economic Inequalities by Railroad Rate Regulation. As regards this problem this article discusses at length the Hoch-Smith Resolution, dated January 30, 1925, which reads: "The Interstate Commerce Commission's 'true policy in adjusting freight rates' is to consider 'the conditions which at any time prevail in our several industries, etc.'" **Joseph R. Geiger:** Religious Faith and the Will to Know. Aims to illustrate helpful affiliations which may exist between the religious and scientific attitudes by showing that curiosity, in the sense of a responsiveness to the enigmatical aspects of experience, is as essential to the former of these attitudes, at its best, as to the latter. **Felix Trojan:** Report of the Fifth Inter-

national Congress for Moral Education (Paris, 1930). The Congress was made up of men and women, most of them actively engaged in the teaching profession, who envisage their ideal in a moral education, uniform as far as possible and embracing the youth of the whole world. It concerned itself with the following subjects: the employment of history with a view to moral education; the part played by discipline and self-mastery in moral education; the different methods to be used in moral education. **W. S. Taylor:** Inadequacy of "Sublimation" as a Concept for Ethics. Defines sublimation as a diversion of "sex energy" into "higher forms" of activity. This study attempts to clarify certain psychological questions, to urge the importance of adequate theory, and to contribute data for the ethicist; in particular, to indicate a more reasonable conception of human sexuality than has sometimes been offered for individual and social adjustments.

The Journal of Applied Psychology—Vol. XV, No. 4: August, 1931.

J. P. Guilford and Ruth B. Guilford: A Prognostic Test for Students in Design. It is the contention of the writers that a real test of creative ability in art should call upon the subject to produce something as an expression of that ability. Tests of appreciation, therefore, are alone not sufficient. In this study the authors limit themselves to the pictorial arts, and feel justified in making a preliminary report on their line drawing test. The test attempts to measure the ability to express certain feelings or attributes through the use of simple lines. When applied to two groups of students in design, the test was found to be fairly reliable and very highly valid when the criterion of creative ability was based upon the teacher's ratings. **Howard T. Hovde:** Consumer Preferences for Smaller Glass Containers. The purpose of this investigation was to find the best all-round glass container for a packaged product when the net content of the container remained constant. It is shown in the investigation that, despite the identical net volume of a group of small glass containers, there exists a psychological advantage in form and shape due to utility, attention value and identification purpose. **F. Henry Adams:** A Theory of Two Factors: An Alternative Explanation. Part II. Specific Factors. 1. Spearman believes in the existence of a general factor, g, which is responsible in part at least for the correlation between tests. The writer has shown that g may be identified with a more inclusive factor, x, the standard in terms of which the measurement is made. 2. For Spearman the value of g may vary between 0 and 1.00. For the writer x is always equal to 1.00. 3. Spearman's specific factor, s, is derived from errors, and may have any value from 0 to 1.00. The sum of g and s may, however, be greater than 1.00. The s's are uncorrelated with each other and with g. For the writer, e is also derived from errors and has always the value of 0. $x + e$ must always equal exactly 1.00. The errors are uncorrelated with each other. 4. Group factors for Spearman, result from overlapping of s's, or correlated errors. For the writer, correlated errors appear only when two or more standards are being used. Memory is presumably the cause of many of the correlated errors in the usual test procedures. 5. Spearman apparently believes that the correlations may indicate the rela-

tions between abilities. The writer has furnished evidence suggesting that correlations indicate the relations between the standards.

The Journal of Applied Psychology—Vol. XV, No. 5: October, 1931.

H. L. Hollingworth: Diurnal Variations in Suggestibility. Suggestion represents a partial dissociation brought about by a cue that operates unwittingly upon the subject. Any perception illusion may be said to constitute a case of suggestion. By suggestibility this discussion means only the particular phenomenon here tested—that of size-weight illusion. Susceptibility to suggestions seems to increase from morning till evening. The subjects of the test were about 3% more suggestible at the last trial than at the first, all undertaken during the course of a day. **Robert Jaudon Ball:** The General Emotionality of the Prisoner. The Woodworth-Cady (modified) Questionnaires were used for this study. Many more cases, the writer says, must be studied before definite conclusions can be drawn. Nevertheless, tentative conclusions drawn from the findings of the present study are given by the author. **R. A. Brotemarkle:** Determining the Point of Emphasis in College-Adult Level Testing. The point of emphasis in mental testing at the college-adult level is clearly indicated as ranging through the more complex mental processes and their functional use in stabilized emotional response. This necessitates the continued use of such personnel procedures as will co-ordinate all of the personal behavior of the individual on the problem of academic success. **Miles A. Tinker and Donald G. Paterson:** Studies of Typographical Factors Influencing Speed of Reading—VII: "Variations in Color of Print and Background." Ten color combinations in addition to black on white were compared with respect to their effect on reading rate. Ten groups of 85 college students each were tested. Striking differences in rate-reading were observed with various color combinations. Providing good legibility were: Black on white, grass-green on white, lustre-blue on white, and black on yellow. Fair legibility: Tulip-red on yellow, tulip-red on white. Poor legibility: Grass-green on red, chromium-orange on black or on white, tulip-red on green, and black on purple. Care must, therefore, be taken to produce a printed page which shows a maximum brightness contrast between print and the background. **Mapheus Smith:** Concerning the Magnitude of the Behavior Sample for the Study of Behavior Traits in Children. The records shows that large samples of observed behavior have a higher reliability than small samples, and the increases tend to be continually progressive. **K. C. Garrison and Sue Craft Howell:** The Relationship between Character Trait Ratings and Certain Mental Abilities. The results of this study are the following: 1. The results from a single objective measure of honesty show that it does not measure the same phase of the trait that the teacher and the pupil raters do. 2. The ratings are somewhat consistent when three judges use the character rating scale devised for this study. 3. Character traits taken separately as a rule do not show close relationship with intelligence and vocabulary ability, but this correlation is considerably higher when the total ratings are considered. 4. Positive and reliable correlations were found between the various character traits and scholarship. 5. *Mental and*

activity traits correlate higher than *social and temperament traits* with the various measures of mental ability. 6. Correlation of .67 ± 0.5 was found between the total ratings on the mental and activity traits and those on the social and temperament traits. 7. Of all the nineteen traits listed *stability* was judged with greatest variability. 8. The subjects of this study were rated higher on the social and temperament traits than on the mental and activity traits. **Key Lee Barkley:** The Development of a New Method for Determining the Relative Efficiencies of Advertisements in Magazines. The method developed here does not measure the actual business efficiency of the advertisements. It indicates, rather, the power of the advertisement to attract the attention of the observer and to cause him to react to the presented material in such a way that he is later able to recall and to identify the particular advertisement. **J. A. Cederstrom:** Repeaters at the College Level. A study of the gains made by the repeaters of a zoology class as compared with those of the regular students taking the course for the first time. The author does not approve of repeaters since they are a "drag" on the class generally, and since their presence there does not warrant the necessary additional expenditure. From their 'showing' as repeaters, he concludes that "achievement necessitates a rigid application, a rigid and definite motivation to accomplish a desired academic result." **Paul R. Farnsworth** and **Misumi Issei:** Notes on the Meier-Seashore Art Judgment Test. This paper reports a series of minor studies of the Meier-Seashore Art-judgment test. **Thomas Paul Young:** Sex Differences in Handwriting. From his test the writer concludes that there is a difference in the handwriting of the two sexes, which even untrained judges were able to determine with an average of 11% better than chance. Men and women are about equal in their ability to determine the sex of the writer. **Ernest B. Skaggs:** A Study of 'Warming Up' in the Case of a Task of More Complicated Perceptual Motor Co-ordination. Warming-up has been rather generally assumed to mean an adjustment of attention in which the worker developed a more favorable attitude toward his task as he proceeded with the work. It is probable, though, that one must also take into consideration—where muscular adjustments are involved—the muscle tissue itself. The author is inclined to the view that the warming-up phenomenon is largely a matter of attitude, mental alertness and attention. "The locus of the phenomenon in the neuro-muscular system is, we believe (author), in the cortical areas, involving a proper arousal of cortical 'sets' or the exercise of the nerve-synapse systems." **Georgene Hoffman Seward:** Students' Reactions to a First Course in Psychology. This study is an experimental analysis of a first course in the hope of better meeting the students' needs. In the experiment, the highest ranks for both preference and value were assigned to Intelligence, Character, and Decision. The topics of least preference were: Perception, Sensation and Physiological Substrata, and those of least value were Sensation, History and Language.

Psychological Review—Vol. 38, No. 5: September, 1931.

W. Line: Gestalt Psychology in relation to other Psychological Systems. The Gestalt movement seems to indicate novel problems or at least novelties

of emphasis and approach though the problems are closely allied to those of past thought. As yet its accomplishments are few and its contribution will be more easily evaluated when it develops more positively. Some scientists suspect that its systematization will only be possible in so far as the analytic methods of other branches of psychology are brought into play. **Howard C. Warren:** In Defense of some Discarded Concepts. The author advocates a compromise between the subjectivity of traditional psychology and the objectivity of behaviorism by stressing the processes intervening between the external stimuli and the consequent response. Introspective research, both old and new, has furnished many clues as to the nature of these intermediate processes which can formulate fundamental problems of the adjustment process and point out promising directions for research into the nature of neural activity. **A. L. Freeman:** Mental Activity and the Muscular Processes. Throughout the various periods of changing psychologic thought an interdependence of mental activity and muscular processes has been urged The thesis of this author is that this doctrine is best understood as dealing with the central facilitation and regulation of cortical operations. This has been strongly supported by experiments in induced muscular tension as a condition of effective behavior.

Philosophy—Vol. VII, No. 25: January, 1932.

Sir James Jeans: The Mathematical Aspect of the Universe. An address delivered by the eminent English scientist before the British Institute of Philosophy on October 13, 1931 in which he urges that the developments of modern science lead to the conclusion that the physical universe is constructed on mathematical lines. **S. Alexander:** Poetry and Prose in the Arts. Through a comparison of various passages the author tries to bring out that the difference between poetry and prose is not merely one of form, but a real difference of kind. "They are not merely two styles of saying the same thing, what is said is different." **P. S. Burrell:** Man the Measure of all Things: Socrates versus Protagoras. **J. Alexander Gunn:** Renouvier: The Man and His Work. The first installment of a series of articles on a somewhat neglected French thinker. This covers his life and philosophy from 1815 to 1903. **T. M. Forsyth:** The New Cosmology in Its Historical Aspect: Plato, Newton, Whitehead. The purpose as outlined by the author is to state in a brief and compact way the main features of the two old and the new cosmologies. **Ralph Barton Perry:** Real and Apparent Value. The Harvard professor attempts to meet the challenge to his view which regards any state of feeling or will as constituting the very datum of value to which true judgments of value must conform. **Michael Kaye:** Tradition. The value of tradition toward which, however, our attitude should be that of an open mind able to rise above obstinacy and prejudice to treasure the truth wherever it is found.

Studies—Vol. XX, No. 80, December, 1931.

Fergal McGrath: The Sweep and the Slums. Suggestions regarding the solution of the vexing problem of housing the poor based on the author's first hand knowledge of the difficulty as it exists in Dublin. **Mary M. Machen:**

The German Catholic Women's League. A sketch of the origin, growth and work of a remarkable Catholic Action movement among the women of Germany. **George O'Neill:** The Poetry of Louise Imogen Guiney. An endeavor to find wherein lies the peculiar excellence of this poetess. **Michael Tierney:** Julian the Apostate and the Religion of Hellenism. An explanation of the complex reasons for the rejection by Julian of the religion of his mother and his return to Hellenism. **William Dawson:** Tom Kettle, the Essayist. A brief account of a once well known Irish essayist, known now, however, only to the survivors of his own generation. **John Cologan:** Irish Missionaries in South Africa. The difficulties of the first Irish Bishops and priests explain why more was not done for the natives. **Henry Somerville:** The Economic Evil of Loan Interest. An attempt to show that many economic and social evils arise not merely from the abuses and excesses, but from the very nature of interest itself. **Virginia M. Crawford:** Leon Bloy. The account of a Catholic writer once much detracted but now coming in for much recognition. **John C. Conroy:** Our Railways and the Drumm-Michelin Railcar. What may be expected to result from a new and important discovery in railcars.

Revue Néo-Scolastique de Philosophie—XXXIII Année, Deuxième série, No. 31: Aoug., 1931.

A. Fauville: Les etudes experimentales de l'apprentissages. An examination of the association-reflex theory and of the gestalt theory with illustrative diagrams. **Henri Gouhier:** L'etude historique du positivisme. Positivism and the French Revolution; the science of humanity; the service and love of humanity. The revolutionists planned an elaborate cult; Comte a simple one. He ignored, however, the theocentric character of Christian mysticism. **Paul Henry:** La Liberte chez Plotin. A conclusion to the study of Plotinus; we cannot pronounce the opinions of this Neo-Platonist free from Pantheism.

Gregorianum—Anno XII, Vol. XII, Fasc. III: Julio-Augusto-Septembri, 1931.

C. Silva-Tarouca: Nouvi studi sulla antiche lettere dei Papi. The critical problem in papal documents, especially of the VII-IX centuries. Canons of criticism are formulated on the basis of documentary study. **F. Pelster:** Zum Problem des Summa des Alexander von Hales. The Summa attributed to this great Saint and Doctor of the Church is here declared certainly to have been in existence about the year 1260. Codex 182 of the Municipal Library of Assisi is examined in detail. **V. Cathrein:** Quo sensu secundum S. Thomam ratio sit regula bonitatis. An ethical study of moral goodness in St. Thomas. Before this number of the *Gregorianum* issued from the press, the venerable Father Cathrein had departed this life (Sept. 10, 1931). It was fitting that this last effort of his ethical studies should deal with rule of moral goodness to which all his life had been devoted, and which, with the help of supernatural grace, he had ever followed.

Scholastik—VII Jahrgang, Heft 1: January, 1932.

Endre v. Ivanka: Die Behandlung der Metaphysik in Jaegers "Aristoteles".

Jaeger performed a great service for classical philology when he once more focused the attention of philologists on Aristotle. The greatest credit is due to him for having effectively disposed of certain errors regarding the works of Aristotle. Unfortunately he proceeded from his own domain of philology into the realm of philosophy and in his philosophic interpretation of Aristotle we find him in contradiction to the objective and historical acceptance of the great teacher's thought. **Franz Maria Sladeczek:** Der Satz vom hinreichenden Erkenntnisgrunde. A lengthy appraisal of the work of Joseph Geyser on the principle of sufficient reason. After a detailed analysis of the nature of our knowledge and the means of attaining that knowledge with special reference to this principle of sufficient reason, Dr. Sladeczek again shows the harmony and validity of the traditional Scholastic principles. **Joseph Froebes:** Eine Neue Erklaerung der Willensfreiheit. A criticism of the new theory on the freedom of the will that appeared in a work called *Leiden im Weltplan* by Thomas Molina (pseudonym). This new theory departs from the teaching of St. Thomas and the Molinists and approaches the dangerous principles of quietism. The most that can be said for the new theory is that from a psychological standpoint it might be true in some pathological cases. But it is certainly not psychologically true of the normal man.

Philosophisches Jahrbuch—Band 45, Heft 1: January, 1932.

Joseph Engert: Das Prinzip des zureichenden Grundes. Another attempt to show the validity of the principle of sufficient reason and its basis in objective reality. The method used is that of expressing logic in formulas akin to those employed in mathematics. **Kaete Friedemann:** Das Gespenst des Relativismus. There is a certain fear for the destructive power of relativism which keeps many from approaching and honestly appraising it. In the present article the writer proposes to face relativism bravely and all it connotes. After a careful analysis thereof Dr. Friedemann makes a distinction between a true and a false relativism and shows that by facing the principles of relativism in an honest appraisal the erroneous in them is easily disposed of and the fear for it is reduced to naught. The writer then outlines a true relativism within the content of Catholic dogma and philosophy. **Reiner Haehling v. Lanzenauer:** Die Philosophie und ihr Problem. The highest function of philosophy is the orientation of a *Weltanschauung*. In the Christian economy this is conditioned by revelation and theology both of which serve as a guide to the efforts of the mind. A further problem of philosophy is that of selecting the best method to pursue its own study. **Hugo Dingler:** Ueber die Stellung von Nicolas Oresme in der Geschichte der Wissenschaften. Scientific men of a former age are not to be judged by no more than their works and the traditions about them. In order to judge them rightly we must also understand the age in which they appear. From this point the author proceeds to describe the position of Nicholas Oresmus with regard to the development of mathematics and their application to the exact sciences and thus he shows him to be a towering figure far in advance of his own age and a man to whom the present age is indebted in no small degree. **Jacob Gessner:** Die Abstractionslehre in der Scholastik

bis Thomas von Aquin mit besonderer Beruecksichtigung des Lichtbegriffes. The conclusion to the articles regarding the many theories on the nature of abstract ideas. In the present paper the writer describes the theories of Albertus Magnus and St. Thomas. Throughout all these theories special attention was given to the use of the word and of the concept "Light" in describing mental functions.

Divus Thomas—Band 4, Heft 9: December, 1931.

Th. Droege: Zur Krise der Kausal-Kontroverse. The present controversy among certain Scholastics regarding the principle of causality is unfortunate for it harks back to a time when similar discussions led to the decadence of the system itself. The problem should be speedily brought to a conclusion for there are many other items of present-day importance which should now engage the attention of Scholastic thinkers. The difficulty seems to be centered in the question as to which ultimate metaphysical principles the principle of causality may be reduced. Much confusion could be avoided if a uniform terminology with uniform meanings were used, but as the matter stands the traditional terminology is very often confused with the modern meanings attached to similar expressions (as the use of "analytic judgment" in the Kantian sense). Moreover, the thought processes are very often not distinguished as, for instance, when the idea of sufficient reason is taken in a dynamic sense and the discussion is carried on from a dynamic or physical angle and yet the conclusions are represented as being formal or philosophic. **P. Wintrath:** In wiefern ist der Gegenstand unseres Verstandes bewustseinsjenseitig? Continuing the study of how far the objects of knowledge remain outside the range of conscious knowledge and nevertheless influence the mind.

Zeitschrift fuer Katholische Theologie—Band 56, Heft 1: January, 1932.

A. Mitterer: Der Dienst des Menschen und der Natur nach dem Weltbild des hl. Thomas und dem der Gegenwart. The position accorded by St. Thomas to the angels in the physical processes of the world is rejected by all today. In this old doctrine man was entirely excluded from any part in the shaping of natural physical courses. The advance of the scientific age meant the end of this doctrine and the evidence that man does have a part in the ordering of physical activities. There are many things that nature would not bring about were it not for the active co-operation on the part of man. This fact should not be overlooked in the scheme of a cultural philosophy for it gives to man a new and great dignity in the economy of the physical world that he should have a part in the development and perfection of that world.

Psychologia. By Gerard Esser. Techny, Illinois: Society of the Divine Word, 1931. Pp. 515.

Father Esser's book will prove to be a most valuable text not only for students who follow a single course in psychology but also for those who intend to specialize in the subject. For the latter it will be an excellent foundation for future work.

The book is divided into two parts: "Psychologia Sensitiva" and "Psychologia Rationalis." It is thoroughly modern. Most of the major problems of present-day psychology are discussed and this is done without sacrificing essentials.

Behaviorism is put aside with a few words. "Behaviorism, quae est scientia motuum sensitivorum, prout manifestant status internos mentis. Hoc systema plane negligit facta psychica et methodo mechanico utens solummodo considerat relationem inter actionem et ejus extrinsecas condiciones atque hanc relationem formulis mathematicis exprimere solet. Qui hoc systema colunt psychologiam scientiis naturalibus adnumerant, eo praesertim quod facta psychica eadem methodo atque facta psychica per observationem, maxime per experimenta mensurant et in leges formulasque mathematicas colligunt."

Of course the author is referring to extreme behaviorism, not to the theories of many modern writers who, although they wish to be called behaviorists, cannot get away from the fact of consciousness and frequently use introspection in their work.

The Gestalt theory of perception is frequently mentioned. Eidetic imagery, which one seldom finds mentioned in text books, is described. Psychoanalysis is discussed at some length. Many subjects, such as arguments for the freedom of the will, the immortality of the soul, etc. are discussed in extenso.

The author states in the preface that the book was written for the Seminarians of the Society of the Divine Word. This, do doubt, accounts for the lack of references to original publications. The author could easily give these to his students during his lectures. One would like to see, however, the original references in the text.

The question of the relation of the endocrine glands to the emotions and personality might well be discussed in future editions of this book. This is especially desirable today when so much crude speculation on the subject of endocrines and personality is appearing and is widely read.

The book is thoroughly scientific and well written. The thanks of teachers of psychology are due to the author and to the friends who induced him to give his work to a wider circle of students.

J. E. R.

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